



# **Determinants of Non Performing Loans**

## **The case of Ethiopian Banks**

**A RESEARCH REPORT**  
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## ***ABSTRACT***

*This study intends to assess determinants of nonperforming loans. The mixed research approach was adopted for the study. Survey was conducted with professionals engaged in both private and state owned Banks in Ethiopia holding different positions using a self administered questionnaire. In addition, the study used structured review of documents and records of banks and in-depth interview of senior bank officials in the Ethiopian banking industry.*

*The findings of the study shows that poor credit assessment, failed loan monitoring, underdeveloped credit culture, lenient credit terms and conditions, aggressive lending, compromised integrity, weak institutional capacity, unfair competition among banks, willful default by borrowers and their knowledge limitation, fund diversion for unintended purpose, over/under financing by banks ascribe to the causes of loan default.*

*However, the study outcome failed to support the existence of relationship between banks size, interest rate they charge and ownership type of banks and occurrences of nonperforming loans.*

*The study suggests that banks should put in place a vibrant credit process that ensures proper customer selection, robust credit analysis, authentic sanctioning process, proactive monitoring and clear recovery strategies for sick loans; formulate a clear policy framework that addresses issues of conflict of interest, ethical standard and check and balance in credit process; organizational capacity enhancement of banks; deliberate effort to develop culture*

*of the public towards credit and its management by banks and ensuring prudent policies that govern bank loans.*

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### LIST OF ACRONYMS/ABBREVIATIONS

IMF	International Monetary Fund
NBE	National Bank of Ethiopia
FDRE	Federal Democratic Republic of Ethiopia
SSA	Sub-Saharan African
CBO	Cooperative Bank of Oromia
RQ	Research Questions
ACB	Automatic Clearing Bureau
KYC	Know Your Customer
PD	Probability of default
LGD	Loss given default
EAD	Exposure at default
NPL	Non-Performance Loans
DBE	Development Bank of Ethiopia
CBB	Construction and Business Bank
ETB	Ethiopian Birr
GDP	Gross Domestic Product
VAR	Value at risk
MIS	Management Information System





## **CHAPTER ONE**

### **ORIENTATION**

Banks role in the economy of any country is very significant. They play intermediation function in that they collect money from those who have excess and lend it to others who need it for their investment. Availing credit to borrowers is one means by which banks contribute to the growth of economies.

Lending represents the heart of the banking industry. Loans are the dominant asset and represent 50-75 percent of the total amount at most banks, generate the largest share of operating income and represent the banks greater risk exposure (Mac Donald and Koch, 2006). Moreover, its contribution to the growth of any country is huge in that they are the main intermediaries between depositors and those in need of fund for their viable projects (creditors) thereby ensure that the money available in economy is always put to good use. Therefore, managing loan in a proper way not only has positive effect on the banks performance but also on the borrower firms and a country as a whole. Failure to manage loans, which make up the largest share of banks assets, would likely lead to the episode of high level of non -performing loans.

According to the International Monetary Fund (IMF, 2009), a non-performing loan is any loan in which interest and principal payments are more than 90 days overdue; or more than 90 days worth of interest has been refinanced. On the other hand the Basel Committee<sup>1</sup> (2001) puts non-performing loans as loans left unpaid for a period of 90 days.

Under the Ethiopian banking business directive, non-performing loans are defined as “Loans or Advances whose credit quality has deteriorated such that full collection of principal and/or interest in accordance with the contractual repayment terms of the loan or advances in question” [National Bank of Ethiopia \(NBE, 2008\)](#).

In the case of Ethiopia, banks, insurance companies and micro-finance institutions are the major financial institutions. The sector is closed for non-Ethiopian citizens. Proclamation No.592/2008 (FDRE, 2008) does not permit foreigners to own and operate banks in Ethiopia.

There is a relatively favorable environment for banking industry and other financial institutions in Ethiopia. As of June 30, 2011 the number of banks operating in the country were sixteen, of which thirteen were private and the remaining three state-owned (NBE, 2011). During the same period there were a total of 841 commercial bank branches in the country (NBE, 2011). One branch of a bank on the average is estimated to serve 95,124 people in Ethiopia as at December 2010 (NBE, 2011).

However, the high people to bank branch ratio indicates that Ethiopia still remains as one of the under banked economies even by Sub-Saharan Africa (SSA) countries standard (The World Bank, 2010). Owing to this and significant profits operating banks in the country earn,

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<sup>1</sup> Basel Committee: is a committee of banking supervisory authorities that provides a forum for regular cooperation on banking supervisory matters. Its objective is to enhance understanding of key supervisory issues and improve the quality of banking supervision worldwide.

there are more entrant banks in the pipeline to join the sector and the existing banks are expanding their branch network. With this also comes the need to put in place a strong institutional framework to regulate and monitor the banks in order to keep health of the financial sector.

An efficient and well-functioning financial sector is essential for the development of any economy, and the achievement of high and sustainable growth. One of the indicators of financial sectors health is loan qualities. Most unsound financial sectors show high level of non-performing loans within a country.

The causes for loan default vary in different countries and have a multidimensional aspect both, in developing and developed nations. Theoretically there are so many reasons as to why loans fail to perform. Some of these include depressed economic conditions, high real interest rate, inflation, lenient terms of credit, credit orientation, high credit growth and risk appetite, and poor monitoring among others. Bercoff et al. (2002) categorizes causes of nonperforming loans to Bank specific and Macroeconomic conditions.

This [thesis](#) attempts to explore bank specific determinants of nonperforming loans [in Ethiopia](#). The remaining part of this chapter is organized into seven sections. Section 1.1 presents problem statement, while sections 1.2 and 1.3 show the broad objectives of the study and research questions respectively. [Section 1.4 presented the methods adopted in the study.](#) The scope /delimitations of the study are highlighted in sections 1.[5](#). Limitation, significance of the study and definitions are discussed in sections 1.[6](#), 1.[7](#) and 1.[8](#) respectively. Finally, the outline of the research is presented in section 1.[9](#).

## 1.1. Statement of the problem

Banks exist to provide financial intermediation services while at the same time endeavor to maximize profit and shareholders' value. Lending is considered the most important function for fund utilization of Commercial Banks as major portion of their income is earned from earned from loans and advances ([Radha](#), 1980).

Despite the fact that loan is major source of banks income and constitutes their major assets, it is risky area of the industry. That is also why credit risk management is one of the most critical risk management activities carried out by firms in the financial services industry. In fact of all the risks banks face, credit risk is considered as the most lethal as bad debts would impair banks profit. It has to be noted that credit risk arises from uncertainty in a given counterparty's ability to meet its obligations.

If the uncertainties materialize they would lead to deterioration of loan qualities. Deterioration in banks' loan quality is one of the major causes of financial fragility. Past experience shows that a rapid build-up of bad loans plays a crucial role in banking crises (Demirgüç-Kunt and Detragiache, 1998, and González-Hermosillo, 1999). The solidity of bank's portfolio depends on the health of its borrowers. In many countries, failed business enterprises bring down the banking system (Alemu, 2001). A sound financial system, among other things, requires [maintenance](#) of a [low](#) level of non- performing loans which in turn facilitates the economic development of a country.

High level of nonperforming loan is linked with banks failures and financial crisis. Failure in one bank might lead to run on bank which in turn has contagious impact affecting the whole banking industry as has recently been experienced in the USA and other parts of the world.

Though the recent financial crisis began with Fannie Mae and Freddie Mac, US banks, it rapidly spread from Wall Street to the rest of world economies (Jonathan Batten and Peter G. Szilagyi, 2011).

Regular monitoring of loan quality, possibly with an early warning system capable of alerting regulatory authorities of potential bank stress, is thus essential to ensure a sound financial system and prevent systemic crises. In line with Basel II accord asset quality is regularly monitored by supervisory authorities- central banks to ensure their well being. Impaired assets or non -performing loans signal failures and calls for rapid intervention to protect the public fund the banks mobilized.

In Ethiopian context, the Banks in the country are required to maintain ratio of their non performing loans below five percent (NBE, 2008). Unpublished data from the NBE shows that the industry average is below the set threshold. Despite this, ratio of nonperforming loans for Cooperative Bank of Oromia (CBO) stood at 11.54% on March 31, 2010 which is relatively very high when compared with the set threshold or the industry average. Though there seem to be some improvements during recent quarters, the ratio still remains higher. For example the ratio stood at 7.62% and 6.75% on June 30, 2010 and December 31, 2010 respectively. Showing slight improvement the ratio was 6.1% on March 31, 2011. On the other hand, during the same period banks that are relatively new and small as CBO (like Lion International, Zemen ,Oromia International, Birhan International and Buna International banks ) have had an average of less than 3.08% nonperforming loans ratio (NBE,2011). The deviant observation at CBO caught the attention of the researcher of what the causes of nonperforming loans are not only in the this bank but also in all the banks in Ethiopia for a thorough examination.

This problem along with the knowledge gap in the literature (to be established in chapter three) calls a research to investigate the causes for the existence of high level of nonperforming loans.

## **1.2. Objectives of the study**

Non-performing loans proportion is one of the determinant factors that depict soundness of the banking sector. Thus, identifying and investigating the determinants of nonperforming loans is very vital to minimize loan default.

## **1.3. Research Questions (RQ)**

The following eight specific research questions were formulated to help achieve the broad objective stated in section 1.2.

*RQ1. What are bank specific determinants of non-performing loans?*

*RQ2. Is there a relationship between credit admittance policy, loan underwriting and risk assessment and level of nonperforming loans?*

*RQ3. Does credit monitoring determine loan default?*

*RQ4. Is there a relationship between collateralized lending and non performing loans?*

*RQ5. What is the impact of credit culture on loan default?*

*RQ6. Do credit terms and price affect loan performance?*

*RQ7. Does rapid credit growth and greater risk appetite lead to non performing loans?*

*RQ8. Is there any relation between bank ownership structure and size and loan default?*

#### **1.4. Methods adopted**

The purpose of this study is to identify and examine factors that determine the occurrence of loan default. As can be seen from the research problem it is more of explanatory type and tries to assess the relationship between occurrence of NPL and some bank specific factors. In order to benefit from the advantage of quantitative and qualitative approaches, the mixed method was used for this study.

#### **1.5. Scope the study**

This study was limited to bank specific factors though macroeconomics has a huge impact on qualities and performance of loans. Thus the study did not explore macro economic factors determining loan defaults. Besides, the data used in the documentary study covered the period 2005-2010 only [for eleven banks that were registered before 2007/08](#).

#### **1.6. Limitation of the Study**

Due to the confidential policy of banks, access to customer and banks information, except officially disclosed financial information, was not possible. The study was also limited to bank employees' and officials' personal perception and officially disclosed financial data of banks.



### 1.7. Significance of the study

The recent global financial crisis and the subsequent recession in many developed countries have increased households' and firms' defaults, causing significant losses for banks. This calls for regular monitoring of loan quality, possibly with an early warning system capable of alerting regulatory authorities of potential bank stress to ensure a sound financial system and prevent systemic crises.

Prudent risk management, with a special emphasis to credit risk is pivotal. To put in place adequate credit management tools, understanding factors that contribute to the occurrence of bad loan play a crucial role.

This study thus would help Ethiopian banks get insight on what it takes to improve their loan qualities and the central bank (NBE) to examine its policy in banking supervision pertaining to ensuring asset quality banks maintain. In addition the study would also contribute to the existing body of knowledge regarding the determinants of nonperforming loans and motivate further research on Ethiopian Banking context and more specifically on macroeconomic determinants of nonperforming which is not studied under this research.

### 1.8. Definitions

**National Bank of Ethiopia (NBE):-** It is the reserve or central bank of Ethiopia. Besides licensing and supervising banks, insurers and other financial institutions, NBE fosters a healthy financial system and undertakes other related activities that are conducive to rapid economic development of Ethiopia. (Proclamation No.592/2008, FDRE, 2008)

**Loans and Advances :** means any financial assets of a bank arising from a direct or indirect advance or commitment to advance funds by a bank to a person that are conditioned on the obligation of the person to repay the funds, either on a specified date or on demand, usually with interest (NBE Directive, SSB/43/008).

**Borrower:** - is the one who borrows money from the lender (Bank).

**Lending:** - is the provision of resources (granting loan) by one party to another party where the second party doesn't reimburse the first party immediately there by generating a debt, and instead arranges either to repay or return those resources a later date.

**Nonperforming loans** - loans or advances whose credit quality has deteriorated such that full collection of principal and/or interest in accordance with the contractual repayment terms of the loan or advances are in question; or when principal and/ or interest is due and uncollected for 90 (ninety) consecutive days or more beyond the scheduled payment date or maturity (NBE Directive, SSB/43/008).

**Credit risk** - it is the risk that a financial contract will not be concluded according to the agreement. It is the risk that the counterparty to an asset will default.

## **1.9. Organization of the Research Report**

The research report is organized according to following chapters. Chapter one discusses orientation of the study that would give a brief overview of banking industry in Ethiopia. The chapter also discusses research questions, objectives, scope, and significance of the study and definition of important terms. In chapter two theoretical foundation of the study is presented.

This chapter covers important issues related to the banking and lending, theoretical review of nonperforming loans, Ethiopian banking system and regulations. Chapter three shows an exhaustive literature review conducted on relevant studies. The review included previous research, surveys and studies. Chapter four describes the research methodology. It explains the research design, the sample population, data collection method, measuring instruments, and data analysis techniques. Similarly, result of the study and summary thereof is presented. The last chapter discusses interpretation of the research results and based on the results conclusions and recommendations are given.

## CHAPTER TWO

### THEORETICAL FOUNDATION OF THE STUDY AND BANKING IN ETHIOPIA

Background information with respect to the research problem, objectives, research questions and scope of the study were discussed in chapter one. This chapter presents the theoretical foundation of the study along with the banking industry in Ethiopia and issues pertaining to credit risk management and nonperforming loans. It is organized into three sections. Section 2.1 deals with general theoretical review of banking and nonperforming loans. This is followed by a discussion of the Banking industry in Ethiopia in section 2.2. Finally brief conclusion to the chapter is presented under section 2.3.

#### 2.1 Theoretical review of banking

This section discusses the theory of banking with major focus on role of banks and their lending activities.

##### 2.1.1 Banking

Banks are financial institutions that accept deposits from the general public and obtain money from such other sources as may be available to them (the 'haves') in order to extended loans to those in need of the money (the 'have-nots'). As Goosen et al.(1999) put it, banks provide channel (financial intermediation) for linking those who have excess funds with those who are in need of funds, thus ensuring the money available in economy is always put to good use. In so doing banks earn income when they lend money out at a higher interest rate than they pay depositors for use of their money. A Bank's main source of income is

interest. A bank pays out at a lower interest rate on deposits and receives a higher interest rate on loans. The difference between these rates represents the bank's net income. Banks and other financial institutions exist in order to earn a profit and to ensure that shareholders' value is maximized.

Currently in most jurisdictions commercial banks are regulated by government entities such as central banks and require a special bank license to operate. The requirements for the issue of a bank license vary between jurisdictions but typically include: Minimum capital, Minimum capital ratio (how do we arrive at this ratio?) , 'Fit and Proper' requirements for the bank's controllers, owners, directors, or senior officers, approval of the bank's business plan as being sufficiently prudent and plausible.

### **2.1.2 Role of Banks**

The banking sector makes a meaningful contribution to the economic growth of every country. Banks contribution to the growth lies in the role they play in mobilizing deposits and allocating the resources efficiently to the most productive uses investment in the real sector. So making credit available to borrowers is one means by which banks contribute to the growth of economies. Banks pool resources together for projects that are too large for individual shareholders to undertake (Bagehot, 1873). They are also considered the most important enabler of financial transactions in any country's economy and are the principal source of credit (Rose, 2002). Bank finance is the primary source of debt funding. Commercial banks extend credit to different types of borrowers for many diverse purposes, either for personal, business or corporate clients (Saunders & Cornett, 2003). Besides, banks

are also the custodians of nation's money, which are accepted in the form of deposits and paid out on the client's instructions (Sinkey, 2002; Harris, 2003).

A bank's role has expanded considerably and is no longer limited to the taking of deposits and providing credit. Banks also perform the following activities (Fourie et al., 1998; Valdez, 2000):

- Money creators: Commercial banks create money by way of deposit liabilities. In contrast to liabilities of other businesses, bank liabilities (cheques) are generally accepted as a means of payment.
- Managers of the payment system: This refers to the payment of cheques through the Automatic Clearing Bureau (ABC). It also facilitates payments of credit and debit cards, internet and cell phone banking and automatic teller machines.
- Creators of indirect financial securities: Commercial banks hold assets that are subject to specific risks, while issuing claims against them in which these risks are largely eliminated through diversification.
- Information agents: Commercial banks developed sound databases of client information and the information is not publicly available (asymmetric information). The information is only shared with other banks by way of a bank code or a full general bank report.
- Financial 'spectrum fillers': The capital market cannot supply the full range of instruments required by borrowers. Commercial banks assist in this regard by supplying specific instruments to fill the gap.

- Dealers in foreign currency: Due to the globalization of the world's economies this has become a very important function. Commercial banks assist in the conversion of currencies, transfer of funds and negotiate foreign financing.

Notwithstanding all other activities, banking industry considers lending as their most important function for utilization of funds. Since the major portion of gross profit of the industry is earned from loans; the administration of loan portfolios seriously affects the profitability of banks (Wei-shong and Kuo-chung, 2006).

### **2.1.3 Bank Lending**

Investment on a productive sector is the precondition for achieving the economic growth from a country perspective. Capital formation positively supports this investment function. Once a satisfactory level of capital is formed, the option of sound investment comes, that ultimately leads to flow of capital in the future. Financial institutions, mainly banks do these functions through different mechanisms such as loans (Islam, 2009). Provision of resources (granting loan) by one party to another is termed as lending. Lending presumes the fact that the second party doesn't reimburse the first party immediately rather arranges either to repay or return those resources at a later date, making it a debt.

To enable them function as financial intermediaries, banks collect funds from savers in the form of deposit and then supply it to borrowers as loans. Thus banks accept customer deposits and use those funds to give loans to other customers or invest in other assets that will yield a return higher than the amount bank pays the depositor (McCarthy et al., 2010). It follows that customers' deposit is the primary source of bank loan and hence, increasing or guaranteeing deposits directly has a positive effect on lending. Commercial banks extend

credit to different types of borrowers for many diverse purposes, either for personal, business or corporate clients (Saunders & Cornett, 2003). Bank finance is the primary source of debt funding. This intermediation functions benefit both the banks and the borrowers.

The principal profit- making activity of commercial banks is making loans to its customers. In allocating funds, the primary objective of bank management is to earn income while serving the credit needs of its community (Reed and Gill, 1989). Lending represents the heart of the industry. Loans are the dominant asset and represent 50-75 percent to total amount of assets at most banks, generate the largest share of operating income and represent the banks greater risk exposure (Mac Donald and Koch, 2006).

Loans and advances are defined in the respective laws of different countries. In Ethiopia, under Article 13 (FDRE 592/2008) and (NBE/2008) Article (4.5) loans and advances are defined as:

*“... any financial assets of a bank arising from a direct or indirect advance (i.e. unplanned overdrafts, participation in a loan syndication, the purchase of loan from another lender etc.) or commitment to advance funds by a bank to a person that are conditioned on the obligation of the person to repay the funds, either on a specified date or on demand, usually with interest. The term includes a contractual obligation of a bank to advance by the bank on behalf of a person. The term does not include accrued but uncollected interest or discounted interest.”*



### **2.1.4 Credit Methodology**

Credit methodology encompasses every activity involved in lending including sales, customer selection and screening, the application and approval process, repayment monitoring, and delinquency and portfolio management. It is also linked with the institutional structure pertaining to the credit process. Quality of credit methodology is one of the most determinant factors for the efficiency, impact and profitability of the institutions. Thus getting the credit methodology and product mix right is therefore one of the most demanding as well as rewarding challenges of every financial institutions (banks). The sections that follow discuss major issues in credit methodology that include credit information, credit analysis process, credit approval and credit monitoring processes. Getting these well significantly affect loan performance.

#### **2.1.4.1 Credit Information**

Engagement in financing begins with customer recruitment. An issue of knowing the customer, customarily known as KYC (Know Your Customer) is so vital before proceeding to details. Banks use various means to obtain such information about the existing or potential customer. Use of financial statement, credit report from credit bureau, customers' history if not new is the potential sources of information (Ross [et al., 1998](#)).

According to The Federal Reserve (2004) a *credit report* is the organized presentation of information about an individual's and/or company's credit record that a credit bureau communicates to those who request information about the credit history of an individual's and/or company's experiences with credit, leases, non-credit-related bills, collection agency

actions, monetary-related public records, and inquiries about the individual's credit history. Further according to Ferreti (2007), credit information is usually integrated with data from other sources such as court judgments, electoral rolls and other private information provided by other organizations, which compile additional information referring to a consumer. This naturally is ideal source of input for credit analysis.

The purpose of information sharing is to communicate relationship information from existing lending relationships to outside lenders (Gehrig and Stenbacka, 2007). Credit providers use credit information to conduct credit risk analysis of prospective borrowers in order to mitigate credit risk. Kallberg and Udell (2003) highlight that information sharing is useful both at the origination stage and after credit has been extended. Especially at the origination phase, information sharing reduces the problems of adverse selection.

In fact the exchange of credit information improves non-performing loan ratios, leads to fewer losses through write offs and decreases interest rates for good credit risks (Jentzsch, 2008: 538). Jentzsch (2008) further supports that sharing credit information between lenders intensifies competition and increases access to finance. Jappelli and Paggano (2005) indicate that credit information sharing results in improved bank's knowledge of applicant's character, easing adverse selection and reduce the informational rents that banks could otherwise extract from their customers. Credit information also acts as a borrower disciplining device, by cutting insolvent debtors off from credit and eliminates or reduces the borrower's incentive to become over-indebted by drawing credit simultaneously from many banks without any of them realizing it.

Further, Gehrig and Stenbacka, (2007) highlight that information sharing reduces adverse selection problems and thereby promotes financial stability; it serves as a borrower disciplining device and it reduces the informational rents that banks can extract within the framework of their established customer relationships. According to Khuzwayo (2008), greater information sharing of trade credit data, particularly in the informal sector, could greatly expand credit access for small and medium enterprises.

In addition, Barth, Lin, Lin & Song (2008) show that information exchange will assist in minimizing lending corruption in banks by reducing information asymmetry between consumers and lenders, improving the bribery control methods and reducing informational rent, and hence the bargaining power of lenders. The exchange of consumer credit information disciplines borrowers to repay loans because borrowers do not want to damage the good report which can make it difficult for them to get credit (Swiss National Bank, 2008).

Once credit information on the loan request is obtained bank officers precede with credit assessment. The next section would thus discuss process involved in credit analysis or assessment.

#### **2.1.4.2 Credit Assessment**

Credit analysis is the first step in the process to tailor-make a solution to fit the customer's needs. The assessment starts with an understanding of the customer's needs and capacities to ensure there is a good fit in terms of the financing solution. Credit assessment is the most

important safeguard to ensure the underlying quality of the credit being granted and is considered an essential element of credit risk management (Cade, 1999).

The credit quality of an exposure generally refers to the borrower's ability and willingness to meet the commitments of the facility granted. It also includes default probability and anticipated recovery rate (Saunders & Cornett, 2003). Credit assessment thus involves assessing the risks involved in financing and thereby anticipating the probability of default and recovery rate.

A credit analysis is used by the credit official to evaluate a borrower's character, capital, capacity, collateral and the cyclical aspect of the economy, or generally referred to as the five C's (Striscek, 2000). Detailed discussion of this model, also referred as the five C's is done the next section.

### ***The Five C's of Credit***

The credit analysis process, traditionally employed by the first banks, does not differ fundamentally from the processes used today (Caouette et al, 1998; Rose, 2002). The five C's are considered the fundamentals of successful lending and have been around for approximately 50 years. Initially only character, capacity and capital were considered. However, over the years collateral and conditions were added. These provided an even more comprehensive view and clearer understanding of the underlying risk and resulting lending decision (Beckman & Bartels, 1955; Reed, Cotter, Gill & Smith, 1976; Sinkey, 2002). According to Murphey (2004a), these principles should be the cornerstone of every lending decision. The five C's are discussed as follows:

**Character:**

Character refers to the borrower's reputation and the borrower's willingness to settle debt obligations. In evaluating character, the borrower's honesty, integrity and trustworthiness are assessed. The borrower's credit history and the commitment of the owners are also evaluated (Rose, 2000). A company's reputation, referring specifically to credit, is based on past performance. A borrower has built up a good reputation or credit record if past commitments were promptly met (observed behavior) and repaid timely (Rose, 2002; Koch & McDonald, 2003). Character is considered the most important and yet the most difficult to assess (Koch & MacDonald, 2003).

Bankers recognize the essential role management plays in a company's success. Critically analyzing quality of management has been one of the ways of assessing character. The history of the business and experience of its management are critical factors in assessing a company's ability to satisfy its financial obligations.

The quality of management in the specific business is evaluated by taking reputation, integrity, qualifications, experience and management ability of various business disciplines such as finance, marketing and labor relations into consideration (Sinkey, 2002; Nathenson, 2004).

These factors can be regarded as risk mitigants if a banker views these positively. Much of its success can in fact be attributed to competent leadership. Companies with strong and competent management teams tend to survive in an economic downturn.

On the other hand privately owned companies are generally managed by its owners. In this instance, succession planning must be in place, as the role of management remains vital to the success of the company (Koch & MacDonald, 2003).

### **Capacity**

Capacity refers to the business's ability to generate sufficient cash to repay the debt. An analysis of the applicant's businesses plan, management accounts and cash flow forecasts (demonstrating the need and ability to repay the commitments) will give a good indication of the capacity to repay (Sinkey, 2002; Koch & MacDonald, 2003).

To get a good understanding of a company's capacity evaluating the type of business and the industry in which it operates is also vital. It plays a significant role since each industry is influenced by various internal and external factors. The factors that form the basis of this analysis includes: Type of industry, Market share, Quality of products and life cycle, whether the business is labor or capital intensive, the current economic conditions, seasonal trends, the bargaining power of buyers and sellers, competition and legislative changes (Koch & MacDonald, 2003; Nathenson, 2004). These factors lead the banker to form a view of the specific company and industry. The banker would regard this as a potential risk mitigant if he/she is confident about the company and industry and prospects for both appear to be positive.

Besides, the financial position is also a critical indication of a business' capacity. The company's financial position is evaluated by assessing past financial performance and projected financial performance. A company's past financial performance is reflected in their

audited financial statements (Koch & MacDonald, 2003). Financial projections consist of projected cash flows demonstrating the need for the facility and the ability to repay the facility (Sinkey, 2002). In this regard at least three years audited financial statements (balance sheet and income statement) are required for data analysis. A financial spreadsheet is used to undertake the analysis.

Commercial banks utilize the financial spread (i.e. audited financial statement analysis and ratio calculations - DuPont) and it is applied through the Moody's Risk Advisor. The model also performs a peer comparison and calculates the probability of default (Koch & MacDonald, 2003). The following financial ratio analyses are very critical in assessing business' position (Koch & MacDonald, 2003):

- **Liquidity ratios** - reflect the company's ability to meet its short-term obligations. According to Conradie and Fourie (2002), the current ratio is calculated by dividing the current assets by the current liabilities.
- **Activity ratios**- indicate whether assets are efficiently used to generate sales.
- **Leverage ratios**- indicate the company's financial mix between equity and debt and potential volatility of earnings. High volatility of earnings increases the probability that the borrower will be unable to meet the interest and capital repayments.
- **Profitability ratios**- supply information about the company's sales and earnings performance.

The cash flow analysis need to be done once the ratio analysis has been evaluated. The cash flow analysis allows the banker to distinguish between reported accounting profits (net

income) and cash flow from operations (cash net income). Cash flow from operations gives an indication of how much cash is generated from normal business activities. The cash flow generated must be sufficient to service the banking facilities (Sinkey, 2002; Koch & MacDonald, 2003). These assumptions are evaluated against the company's past performance, industry averages and expected economic trends (Nathenson, 2004).

An assessment of the financial capacity of a company should always include an evaluation of trends. Evaluating trends over a three to five year period gives a clear picture of the direction a firm is heading. Ratio results should always be compared to a peer group of or an industry comparison. Is the firm collecting faster or slower than the rest of the industry? Is this company more profitable than other companies just like them? In this regard making a maximum use of ratios by comparing the firm to its peers using established benchmarks is so vital. Comparison of the company to firms in the same line of business, geographic area and employee size provides a more accurate comparison.

The projections also reveal the purpose, amount and type of finance required. It also provides insight into the company's ability to generate sufficient cash flow to service the debt (Murphey, 2004b; Nathenson, 2004). Banks must ensure that the type of financing is aligned to the purposed of finance (Rose, 2000).

Analysis of the financial capacity of the organization should also be carried out in order to determine a borrower's ability to meet financial obligations in a timely fashion. Its ability to pay may be much more important. It is critical to understand the difference. Watching customer payment habits over time is an excellent indication of cash flow. Also, checking bank and trade references, as well as any pending litigation or contingent liabilities are



pivotal. Further checking for a parent company relationship is important as a parent company's guarantee may be available. Intercompany loans might affect financial solvency. Agency ratings that predict slow payment or default should be carried out before completion of investigating capacity of a borrower.

## **Capital**

Capital refers to the owner's level of investment in the business (Sinkey, 2002). Banks prefer owners to take a proportionate share of the risk. Although there are no hard and fast rules, a debt/equity ratio of 50:50 would be sufficient to mitigate the bank's risk where funding (unsecured) is based on the business's cash flow to service the funding (Harris, 2003). Lenders prefer significant equity (own contribution), as it demonstrates an owner's commitment and confidence in the business venture.

## **Conditions**

Conditions are external circumstances that could affect the borrower's ability to repay the amount financed. Lenders consider the overall economic and industry trends, regulatory, legal and liability issues before a decision is made (Sinkey, 2002). Once finance is approved, it is normally subject to terms and covenants and conditions, which are specifically related to the compliance of the approved facility (Leply, 2003).

Banks normally include covenants along with conditions when credit facilities are granted to protect the bank's interest. The primary role of covenants is to serve as an early warning system (Nathenson, 2004). Covenants can either be negative or positive (Sinkey, 2002).

Negative covenants stipulate financial limitations and prohibited events (Rose, 2000; Koch & MacDonald, 2003). Some examples of negative covenants are:

- Cash dividends cannot exceed 50% of the net profit after tax (financial limitation).
- No additional debt may be obtained without the bank's prior approval (prohibited event).

Positive or affirmative covenants stipulate the provisions the borrower must adhere to (Rose, 2000; Koch & MacDonald, 2003). Some examples of positive covenants are:

- Audited financial statements must be provided within 90 days of the company's financial year-end.
- The borrower must maintain the following financial ratios: Interest cover ratio of 4:1 (defined as earnings before interest and tax divided by interest paid), Gearing ratio of 2:1 (defined as total liabilities divided by owners equity).

Conditions normally stipulate that all the security relevant to the loan should be in order before any funds will be advanced.

### **Collateral**

Collateral (also called security) is the assets that the borrower pledges to the bank to mitigate the bank's risk in event of default (Sinkey, 2002). It is something valuable which is pledged to the bank by the borrower to support the borrower's intention to repay the money advanced. Security is taken to mitigate the bank's risk in the event of default and is considered a secondary source of repayment (Koch & MacDonald, 2003).

Supporting of the aforementioned, Rose and Hudgins (2005) define secured lending in banks as the business where the secured loans have a pledge of some of the borrower's property (such as home or vehicles) behind them as collateral that may have to be sold if the borrower defaults and has no other way to repay the lender.

The purpose of security is to reduce the risk of giving credit by increasing the chances of the lender recovering the amounts that become due to the borrower. Security increases the availability of credit and improves the terms on which credit is available. The offer of security influences the lender's decision whether or not to lend, and it also changes the terms on which he is prepared to lend, typically by increasing the amount of the loan, by extending the period for which the loan is granted and by lowering the interest rate (Norton and Andenas, 1998: 144).

According to De Lucia and Peters (1998), in the banking environment, security is required for the following three reasons:

- to ensure the full commitment of the borrower to its operations,
- to provide protection should the borrower deviate from the planned course of action outlined at the time credit is extended, and
- to provide insurance should the borrower default.

The security value of an asset is based on the estimated re-sale value of the assets at the time of disposing of it (McManus, 2000) The specific type of property is valued by the bank to determine the property's market value for security purposes (Rose, 2000).

Besides the physical collateral a third party can provide a suretyship for the debt of the borrower. Should the borrower not be in a position to repay the debt, the bank will then call on the surety for repayment (Koch & MacDonald, 2003). It is normal banking practice for the banks to take the suretyships of the shareholders/directors when funds are advanced to a company (Rose, 2000; Vance, 2004).

C's" are well-known credit assessment principles, commercial banks have developed their own qualitative credit risk assessment models to assess whether the bank will agree to lend to a specific business (Sinkey, 2002).

Based on the credit information obtained about the borrower and credit assessment carried out, either by quantitative or qualitative model (through the use of the five C's) or combination of both, credit sanctioning is done. The section that follows discusses the credit sanctioning or approval process.

#### **2.1.4.3 Credit Approval**

Extending credit is the careful balance of limiting risk and maximizing profitability while maintaining a competitive edge in a complex, global marketplace. Banks go through a thorough process in approving credit to hit the balance. Credit approval is the process of deciding whether or not to extend credit to a particular customer. It involves two steps: gathering relevant information and determining credit worthiness (Ross, Westerfield and Jordan, 1999).

As has been discussed in the preceding section, the credit analysis process consists of a subjective analysis of the borrower's request and a quantitative analysis of the financial information provided. The individual steps in the credit approval process and their implementation have a considerable impact on the risks associated with credit approval.

The quality of credit approval processes depends on two factors, i.e. a transparent and comprehensive presentation of the risks when granting the loan on the one hand, and an adequate assessment of these risks on the other. Furthermore, the level of efficiency of the credit approval processes is an important rating element. Due to the considerable differences in the nature of various borrowers and the assets to be financed as well the large number of products and their complexity, there cannot be a uniform process to assess credit risks.

The quality of the credit approval process from a risk perspective is determined by the best possible identification and evaluation of the credit risk resulting from a possible exposure. The credit risk can be distributed among the following risk components: Probability of default (PD), Loss given default (LGD) and Exposure at default (EAD). (Oesterreichische National bank Credit Approval Process and Credit Risk Management, 2000, Bluhm, Overbeck & Wagner, 2003):

### **Probability of default (PD)**

Default probability is the likelihood that the business will default on its repayment over the term of the facility. Reviewing a borrower's probability of default is basically done by evaluating the borrower's current and future ability to fulfill its interest and principal repayment obligations.

**Loss given default (LGD)**

Exposure at default is the magnitude or exposure that would be materialized in the event of a default. It addresses what fraction of the exposure may be recovered through bankruptcy proceedings or through some other form of settlement in the event of a default. The loss given default is affected by the collateralized portion as well as the cost of selling the collateral. Therefore, the calculated value and type of collateral also have to be taken into account in designing the credit approval processes. (*ibid*)

**Exposure at default (EAD)**

In the vast majority of the cases described here, the exposure at default corresponds to the amount owed to the institution. Thus, besides the type of claim; the amount of the claim is another important element in the credit approval process. (*ibid*)

Once information has been gathered, the firm faces the hard choice of either granting or refusing credit. Many financial managers use the "five C's of Credit" as their guide (Ross, Westerfield and Jaffe, 1999) as discussed earlier and identify and evaluate the credit risk resulting from a possible exposure to sanction the credit.

**2.1.4.4 Loan Follow up**

Lending decision is made on sound credit risk analysis /appraisal and assessment of creditworthiness of borrowers. But past records of satisfactory performance and integrity are no guarantee future, though they serve as useful guide to project trend in performance. A

loan granted on the basis of sound analysis might go bad because of the borrower may not meet obligations per the terms and conditions of the loan contract. It is for this reason that proper follow up and monitoring is essential. Monitoring or follow-up deals with the following vital aspects:

- Ensuring compliance with terms and conditions
- Monitoring end use of approved funds
- Monitoring performance to check continued viability of operations
- Detecting deviations from terms of decision
- Making periodic assessment of the health of the loans and advances by noting some of the key indicators of performance that might include: profitability, activity level and management of the unit and ensure that the assets created are effectively utilized for productive purposes and are well maintained.
- Ensuring recovery of the installments of the principal and interest in case of term loan as per the scheduled repayment program
- Identify early warning signals, if any, and initiate remedial measures thereby averting from possible default.

Basically there are three types of loan follow up systems. These are: Physical follow up, financial follow up and legal follow up. Each is discussed in section that follows.

### ***Physical Follow -up***

Physical follow-up helps to ensure existence and operation of the business, status of collateral properties, correctness of declared financial data, quality of goods, conformity of financial data with other records ( such as taxes ,register books), availability of raw

materials, labor situation, marketing difficulties observed ,undue turnover of key operating personnel, change in management set up among others.

### ***Financial Follow- up***

Financial follow up is required to verify whether the assumptions on which lending decisions was taken continues to hold good both in regard to borrowers' operation and environment , and whether the end use is according to the purpose for which the loan was given.

### ***Legal Follow- up***

The purpose of legal follow up is to ensure that the legal recourse available to the Bank is kept alive at all times. It consists of obtaining proper documentation and keeping them alive, registration, proper follow up of insurances. Specific issues pertaining to legal follow up include: ascertaining whether contracts are properly executed by appropriate persons and documents are complete in all aspects, obtaining revival letters in time (revival letters refer to renewal letter for registration of security contracts that have passed the statutory period as laid down by the law), ensuring loan/mortgage contracts are updated timely and examining the regulatory directives, laws, third party claims among others.

## **2.1.5 Banking Risks**

Shareholder value maximization requires a firm to engage in risk management practices only if doing so enhances the value of the firm and, by implication, its value to shareholders (Ali, 2006)



A volatile economy and recent credit crisis show the importance of banks to increase attention on how risks can be measured and kept under control. Bessis (2002:11) defines banking risks as “adverse impacts on profitability of several distinct sources of uncertainty”. Many risks are common to all financial institutions that include: credit, liquidity, market, operational, currency, solvency, and interest rate, country risks among others. The sections that follow discuss the key risks that banks are exposed to.

#### **2.1.5.1 Credit risk**

According to Valsamakis et al (2005), credit risk is the risk that a financial contract will not be concluded according to the agreement. It is the risk that the counterparty to an asset will default. In other words it is the risk to earnings or capital due to borrowers’ late and non-payment of loan obligations (reference). Credit risk encompasses both the loss of income resulting from the sector inability to collect anticipated interest earnings as well as the loss of principal resulting from loan defaults. Credit risk arises because the possibility that the expected cash flows from advances and securities held, might not be paid in full. Credit risk is considered the most lethal of the risks banks face (Cade, 1999). Credit risk includes both transaction risk and portfolio risk. (Risk Management, GTZ, 2000).

Under credit risk are also transaction and portfolio risks. Transaction risk refers to the risk within individual loans transaction risk is mitigated through borrower screening techniques, underwriting criteria and quality procedures for loan disbursement, monitoring, and collection. Portfolio risk refers to the risk inherent in the composition of the overall loan portfolio.

Policies on diversification (avoiding concentration in a particular sector or area), maximum loan size, types of loans, and loan structures lessen portfolio risk.

### **2.1.5.2 Liquidity risk**

Liquidity risk is the possibility of negative effects on the interests of owners, customers and other stakeholders of the financial institution resulting from the inability to meet current cash obligations in a timely and cost-efficient manner. Liquidity risk occurs when there is a sudden surge in liability withdrawals resulting in a bank to liquidate assets to meet the demand (Bessis, 2002). It usually arises from management's inability to adequately anticipate and plan for changes in funding sources and cash needs. According to Rose and Hudgins (2005) bankers and other financial institutions are concerned about the danger of not having enough cash to meet payment or clearing obligations in a timely and cost effective manner.

Efficient liquidity management requires maintaining sufficient cash reserves on hand (to meet client withdrawals, disburse loans and fund unexpected cash shortages) while also investing as many funds as possible to maximize earnings (putting cash to work in loans or market investments) (Risk Management, GTZ 2000).

### **2.1.5.3 Market risk**

Market risk is the risk incurred in the trading of assets and liabilities when interest rates, exchange rates and other asset prices change (Saunders & Cornett, 2003). It is the current and potential risk to earnings and shareholders' equity resulting from adverse movements in

market rates or prices. It arises from interest rate, equity and foreign exchange risks (Koch and Macdonald, 2003). According to Bessis (2002) due to increased competition the interest income of banks is declining and banks are concentrating more on non-interest income in order to mitigate this risk.

#### **2.1.5.4 Operational risk**

It is the risk of loss resulting from inadequate internal processes, people and systems or from external events (Koch and Macdonald, 2003). Operational risk is the possible risk that existing technology or support systems will fail or malfunction. It also includes human errors, fraud and non-compliance with an institution's procedures and policies (Bessis, 2002).

#### **2.1.5.5 Currency risk**

Concerns the possible impact which fluctuations in exchange rates may have on the foreign exchange holdings or the commitments payable in foreign currencies by business organizations (Valsamakis, et al., 2005). It is the possibility that exchange rate fluctuations can adversely affect the value of a bank's assets and liabilities held in foreign currencies (Bessis, 2002). Currency risk is one of the market risks banks face.

#### **2.1.5.6 .Capital or Solvency risk**

It is the risk that a bank may become insolvent and fail (Koch and Macdonald, 2003). It isn't considered a separate risk because all of the risks a bank faces, in one form or another, affect a bank's capital.

#### **2.1.5.7 Interest rate risk**

A bank is exposed to interest rate risk when the maturities of the bank's assets and liabilities are mismatched (Saunders & Cornett, 2003). Interest rate risk arises from the possibility of a change in the value of assets and liabilities in response to changes in market interest rates. If interest rates rise and a mismatch occur in maturities by holding longer-term assets than liabilities, the market value of the assets will decline by a larger amount than the liabilities.

Also known as asset and liability management risk, interest rate risk is a critical treasury function, in which financial institutions match the maturity schedules and risk profiles of their funding sources (liabilities) to the terms of the loans they are funding (assets). Bessis,(2002) states that interest rate risk could result in economic losses and insolvency. Interest rate risk is also one of the market risks.

#### **2.1.5.8 Country risk**

It is associated with the risk that foreign borrowers cannot repay the debt due to foreign currency shortages, adverse political and economical conditions or interference by the foreign government (Saunders & Cornett, 2003).

Besides the aforementioned risks Rose and Hudgins (2005) state that banks are also exposed to: Compliance risk, Reputation risk, Sovereign risk, Strategic risk, and Legal and regulatory risks.

Financial institution managers (and regulators) review these risks in light of i) the institution's potential exposure to loss, ii) the quality of internal risk management and information systems, and iii) the adequacy of capital and cash to absorb both identified and unidentified potential losses. In other words, management determines whether the risk can be adequately measured and managed, considers the size of the potential loss, and assesses the institution's ability to withstand such a loss (Risk Management Framework, GTZ 2000).

### **2.1.6 Credit Risk Management**

Loan is a major asset, income source for banks, and risky area of the industry. Moreover, its contribution to the growth of any country is very clear. Bank credit is the primary source of debt financing available for most customers in the personal, business or corporate market. The underlying need for credit varies across these markets. Banks generally also want to increase the base of their income and use credit extension as an opportunity to cross sell other fee generating services when a customer applies for credit facilities (Koch & MacDonald, 2003).

Any successful business must meet its customer needs and make a profit. Likewise, successful financial institutions must meet the desperate needs of depositors and borrowers. Depositors look for high rates, short terms and no risk, while borrowers seek low rates and long terms. Financial institutions are therefore, in the risk intermediation business. To be successful, financial institutions, banks in particular, must properly underwrite risk, manage and monitor the risk assumed (Barrickman, 1990).

Credit risk can be defined as the potential for a borrower or counter party to fail to meet their obligations in accordance with the terms of an obligation's loan agreement, contract or indenture (Sobehart, Keenan & Steyn, 2003).

Credit risk is considered the oldest form of risk in the financial markets. Caouette, Altman & Narayanan (1998: 1) state that "credit risk is as old as lending itself", dating back as far as 1800 B.C. The first banks, which started in Florence seven hundred years ago, faced very similar challenges that banks face today. Although managing credit risk is their core competency, many banks failed due to over-extension of credit (Caouette et al, 1998).

The most prominent risk assumed by banks is credit risk. This is due to the various factors that influence a borrower's ability to repay the credit facility. The borrower's ability to repay is closely linked to the general economic conditions of a country. In favorable economic conditions the ability to repay increases, which could be due to a favorable interest rate environment, low inflation, increased income levels or a combination of these factors. The opposite is however true in poor economic conditions. The borrower's ability to repay is adversely effected under these conditions due to a reduction in disposable income (Koch & MacDonald, 2003).

Credit risk arises from uncertainty in a given counterparty's ability to meet its obligations. The increasing variety in the types of counterparties (from individuals to sovereign governments) and the ever-expanding variety in the forms of obligations (from auto loans to complex derivatives transactions) has meant that credit risk management has jumped to the

forefront of risk management activities carried out by firms in the financial services industry (Basel committee, 1999).

The risk profile of banks is fundamentally different from that of other financial institutions, like stockbrokers and insurance industry. An integral part of banking is the management of credit risk and it is done through well-diversified portfolios of exposure. Most banks fail because of poorly managed credit risk (Rose, 2002).

Credit risk management primarily focuses on loss avoidance and the optimization of return on risk. Financial institutions in the world are facing two major challenges. Firstly, they need to deliver increasing returns and value to shareholders and secondly, they need to determine how to capitalize on the New Capital Accord's (Basel II) minimal capital requirements (Belmont, 2004).

The need to put a strong credit risk management in place cannot overemphasized as failure which lead loan default and thereby crisis on banks. The section that follows discusses non performing loans.

### **2.1.7 Nonperforming Loans (NPL)**

Loans and advances constitute the primary source of income by banks. As any business establishment a bank also seeks to maximize its profit. Since loans and advances are more profitable than any other assets, a bank is willing to lend as much of its funds as possible. But banks have to be careful about the safety of such advances (Radha .M, et al, 1980). Bankers naturally try to balance the issue of maximizing profit by lending and at the same time manage risk of loan default as it would impair profit and thereby the very capital .Thus a

bank needs to be cautious in advancing loans as there is a greater risk which follows it in a situation where the loan is defaulted.

In other words loan loss or defaulted loans puts a bank in a difficult situation especially when they are in greatest amount. Despite the fact that banks hold security for the loans they grant they cannot be fully be certain as to whether they are paid or not. It is when such risks materialize that loans turn to be non- performing.

The concept of non-performing loans has been defined in different literatures. According to Patersson and Wadman (2004), non- performing loans are defined as defaulted loans which banks are unable to profit from. They are loans which cannot be recovered within stipulated time that is governed by the laws of a country. According to the International Monetary Fund (IMF, 2009), a non- performing loan is any loan in which interest and principal payments are more than 90 days overdue; or more than 90 days worth of interest has been refinanced.

Non-performing loans generally refer to loans which for a relatively long period of time do not generate income; that is the principal and/or interest on these loans has been left unpaid for at least 90 days (Fofac, 2009). Non- performing loans are further defined as loans whose cash flows stream is so uncertain that the bank does not recognize income until cash is received, and loans those whose interest rate has been lowered on the maturity increase because of problem with the borrower (Machiraju, Undated). HR Machiraju expresses non-performing loans as a leading indicator of credit quality.



Non Performing Loans (NPL) or bad loans arise in respect of the loans and advances which are given by banks to the whole range of different projects including but not exclusively retail or wholesale, personal or corporate or short, medium or long term projects. NPLs are a very sensitive element of a bank's operations.

According to Brown, Mallett and Taylor, the losses bad loans (NPLs) cause, by reducing the capital resource of the bank, affects its ability to grow and develop its business (Taylor, 1993). Disclosure of the extent of these losses in its financial statements may lead to a loss of confidence in the bank's management and a reduction in its credit ratings. This will in turn increase the bank's cost of borrowing in the wholesale market and make it more expensive or more difficult to raise capital. In extreme cases, it can leads to a loss of deposits, the withdrawal of the bank's authorization and ultimately insolvency (M.G. Taylor, 1993). Thus NPL is one of the concrete embodiments of credit risk which banks take. They have greater implication on the function of the banks as well as the overall financial sector development.

Historically, the occurrence of banking crises has often been associated with a massive accumulation of non-performing loans which can account for a sizable share of total assets of insolvent banks and financial institutions, especially during episodes of systemic crises.

Deterioration in banks' loan quality is one of the major causes of financial fragility. Past experience shows that a rapid build-up of bad loans plays a crucial role in banking crises (Demirgüç-Kunt and Detragiache, 1998, and González-Hermosillo, 1999).

It is widely accepted that the quantity or percentage of non-performing loans (NPLs) is often associated with bank failures and financial crises in both developing and developed countries. In fact, there is abundant evidence that the financial/banking crises in East Asia and Sub-Saharan African countries were preceded by high non-performing loans. The current global financial crisis, which originated in the US, was also attributed to the rapid default of sub-prime loans/mortgages. In view of this reality it is therefore understandable why much emphasis is placed on non-performing loans when examining financial vulnerabilities (Sorge, 2004).

It is apparent that insolvency of banks is costly to the macro economy *per se*, but this cost can be increased or decreased by the regulators and the policies they use in resolving the insolvencies. The faster banks can be resolved before their economic capital turns negative, the smaller are both losses to depositors and costs to the macro economy (G. Kaufman, 2004). This is why most countries provide their own rules regarding NPLs and its classifications.

The classification of a loan as bad or doubtful may result from a specific act by the borrower, for example, petitioning for bankruptcy, or from circumstances that have the potential to place the loan at risk. For example, the borrower may have defaulted on one or more of the terms of the loan, or a substantial part of its assets may be in an industrial sector or country that is suffering from an economic recession (M.G. Taylor, 1993). Nonperforming loans could be recognized early from the violation of the terms of agreement by the borrower.

When we see the context of Africa, the criterion for identifying non performing loans varies. Some countries use quantitative criteria to distinguish between “good” and “bad” loans (e.g., number of days of overdue schedule payments), while others rely on qualitative norms (such as the availability of information about the client’s financial status, and perspectives about future payments). However, the Basel II Commission emphasizes the need to evolve toward a standardized and internal rating-based approach. Accordingly, the Basel committee puts non performing loans as loans left unpaid for a period of 90 days as has been mentioned in the preceding paragraphs.

Under the Ethiopian banking business directive, non-performing loans are defined as “loans or advances whose credit quality has deteriorated such that full collection of principal and/or interest in accordance with the contractual repayment terms of the loan or advances in question (NBE, 2008).” It further provides that:

*..., loans or advances with pre established repayment programs are nonperforming when principal and/ or interest is due and uncollected for 90 (ninety) consecutive days or more beyond the scheduled payment date or maturity (NBE, 2008).*

In addition to the above mentioned category of non- performing loans, overdrafts and loans or advances that do not have pre-established repayment program shall be non-performing when:

- The debt remains outstanding for 90 (ninety) consecutive days or more beyond the scheduled payment date or maturity;

- The debt exceeds the borrower's approved limit for 90 (ninety) consecutive days or more;
- Interest is due and uncollected for 90 (ninety) consecutive days and more; or For the overdrafts, (i) the account has been inactive for 90 (ninety) consecutive days or (ii) deposits are insufficient to cover the interest capitalized during 90 (ninety) consecutive days or (iii) the account fails to show the 20% of approved limit or less debit balance at least once over 360 days preceding the date of loan review.

This is in accordance with the Basel rules. If a loan is past due for 90 consecutive days, it will be regarded as non- performing. The criteria used in Ethiopian banking business to identify non- performing loan is a quantitative criteria based on the number of days passed from loan being due.

The economic and financial costs of these impaired loans are significant. Potentially, these loans may negatively affect the level of private investment, increase deposit liabilities and constrain the scope of bank credit to the private sector through a reduction of banks' capital, following falling saving rates as a result of runs on banks, accumulation of losses and correlative increased provisions to compensate for these losses. These loans also have potential for reducing private consumption, and in the absence of deposit guarantee mechanisms to protect small depositors, can be a source of economic contraction, especially when coupled with declining gross capital formation in the context of a credit crunch caused by erosion of banks' equity and assets (Fofac, 2009).

Generally, in developing and underdeveloped countries, the reasons for default have a multidimensional aspect. Various researchers have concluded various reasons for loan default. Literature categorizes determinants of NPL to macroeconomic and bank specific factors. The paragraphs that follow discuss determinants of nonperforming loans.

George G (2004) states the fact that large number of the literatures indicates the linkage between the phases of the business cycle with banking stability. Macroeconomic stability and banking soundness are inexorably linked. Economic theory and other evidences strongly indicate that instability in the macroeconomic is associated with instability in banking and financial markets and vice versa.

The relation between the macroeconomic environment and loan quality has been investigated in the literature linking the phase of the business cycle with banking stability. In this line of research the hypothesis is formulated that the expansion phase of the economy is characterized by a relatively low number of NPLs, as both consumers and firms face a sufficient stream of income and revenues to service their debts. However as the booming period continues, credit is extended to lower-quality debtors and subsequently, when the recession phase sets in, NPLs increase (Fisher 1933, Minsky 1986, Kiyotaki and Moore 1997, Geanakoplos, 2009).

According to Salas and Saurina (2002) there is a significant negative contemporaneous effect of GDP growth on the NPL ratio and infer a quick transmission of macroeconomic developments to the ability of economic agents to service their loans. The other macroeconomic variables, aside from GDP growth, such as unemployment and interest rates

have got an impact on household and firms that they have a relation with NPL ratio. More specifically, an increase in the unemployment rate should influence negatively the cash flow streams of households and increase the debt burden. With regards to firms, increases in unemployment may signal a decrease production as a consequence of a drop in effective demand. This may lead to a decrease in revenues and a fragile debt condition.

When we see the impact of interest rate, it affects the difficulty in servicing debt, in the case of floating rate loans. This implies that the effect of the interest rate should be positive, and as a result the increasing debt burden caused from rising interest rate payments should lead to a higher number of NPLs.

The choice of GDP, unemployment and interest rate as the primary determinants of NPLs may also be justified from the theoretical literature of life-cycle consumption models. Lawrence (1995) examines such a model and introduces explicitly the probability of default, explained earlier. The model implies that borrowers with low incomes have higher rates of default. This is explained by their increased risk of facing unemployment and being unable to pay. Additionally, in equilibrium, banks charge higher interest rates to riskier clients.

Further, Rinaldi and Sanchis-Arellano (2006) extend Lawrence's model by including the possibility that agents can also borrow in order to invest in real or financial assets. After solving the optimization problem of an agent, they derive the probability of default which depends on current income, the unemployment rate (which is linked to uncertainty regarding future income) and the lending rate.

Macroeconomic instability would have consequences for the loan quality of banks in any country. High inflation increases the volatility of business profits because of its unpredictability, and because it normally entails a high degree of variability in the rates of increase of price of the particular goods and services which make up the overall price index. The probability that firms will make losses rise; as does the probability that they will earn windfall profits.

Studies conducted on banks in different economies also depict the correlation between macroeconomic factors like inflation, unemployment and interest rate and loan defaults.

Generally looking, the effect of macroeconomic instability on the financial sector and banking in particular makes it a cause for non- performing loans.

Macroeconomic factors which are viewed as exogenous forces influencing the banking industry should not be sought exclusively in determining NPLs. In contrast, the typical nature of the banking sector along with the specific policy choices of a particular bank with regard to its efforts to maximize efficiency and improve in its risk management are expected to exert a vital influence on the evolution of NPLs. Thus bank specific factors also ascribe to the causes of nonperforming loans.

Due to the nature of their business, banks are exposed default risk from borrowers. According to Brownbridge (1998) many of the bad debts were attributable to moral hazard: the adverse incentives on bank owners to adopt imprudent lending strategies, in particular insider lending and lending at high interest rates to borrowers in the most risky segments of

the credit markets. He further observed that second major factor contributing to bank failure were the high interest rates charged to borrowers operating in the high-risk segments of the credit market. This involved elements of moral hazard on the part of both the banks and their borrowers and the adverse selection of the borrowers.

Keeton and Morris (1987) indicated that commercial banks with greater risk appetite tend to record higher losses. This also leads to leniency. Salas and Saurina (2002) attribute the leniency to disaster myopia, herd behaviour and agency problems that may entice bank managers to lend excessively during boom periods of economic expansion.

Sinkey and Greenwalt (1991) also indicated that there is significant positive relationship between the loan-loss rate and internal factors such as high interest rates, excessive lending, and volatile funds. Keeton (1999) also indicated a strong relationship between credit growth and impaired assets. Specifically, Keeton (1999) shows that rapid credit growth, which was associated with lower credit standards.

Salas and Saurina (2002) reveal that rapid credit expansion, bank size, capital ratio and market power explain variation in NPLs. Meanwhile, Rajan and Dhal (2003) indicated that favourable macroeconomic conditions (measured by GDP growth) and financial factors such as maturity, cost and terms of credit, banks size, and credit orientation impact significantly on the NPLs of commercial banks in India.



Fofack (2005) also indicated that the real interest rate, net interest margins, and inter-bank loans are significant determinants of NPLs. More recently Hu et al (2006) analysed the relationship between NPLs and ownership structure of commercial banks and found that banks with higher government ownership recorded lower non-performing loans.

Generally robustness and prudence of the credit process largely contribute to loan qualities banks maintain. In this regard, appropriateness of customer selection process, quality and depth of credit assessment, thoroughness of the sanctioning process, and mechanisms of post disbursement follow up will have a significant role in determining where a specific bank stands i when it comes to loan performance. In other words the credit risk management framework banks set and live -by is very crucial in keeping loan default to minimum level. Thus failing in any one of the issues discussed under section 2.1.4 will likely to lead to occurrences of NPL. In- depth review of the relevant literature on determinants of NPL is made in the chapter three.

Banks should use various mechanisms to recognize early warning signs regarding their loans. The regulation and monitoring process will be successful when there is strong legal as well as institutional framework of the banking business. This is why most countries need to provide strict regulation regarding non- performing loans. In order to put mechanisms that help to recognize early warning signs, to need to examine the root causes of loan default is of paramount importance as discussed in chapter three.

## **2.2 Banking Industry in Ethiopia**

Sources from the National Bank of Ethiopia (NBE, 2010) indicate that modern Banking in Ethiopia dates back to the year 1905 when the Bank of Abyssinia was established. Bank of Abyssinia was formed under a fifty- year franchise agreement made with the National Bank of Egypt, which was owned by the British by then. To widen its reach in the country the Bank had expanded its branches to Dire Dawa, Gore and Dessie. It also had an agency and a transit office in Gambella and at the port of Djibouti respectively. After its formal liquidation on August 29, 1931 the Bank of Abyssinia was replaced by the Bank of Ethiopia.

According to NBE (2010) Bank of Ethiopia, which was also known as Banque National Ethiopienne , was a national Bank and one of the first indigenous banks in Africa. The Bank of Ethiopia operated until 1935 and ceased to function because of the Italian invasion. During the five years of the Italian occupation (1936-41), many branches of the Italian Banks such as Banco d’italia, Banco de-Roma, Banco Di-Napoli and Banco Nazianali del lavoro were operational in the main towns of Ethiopia.

After evacuation of Italians, the State Bank of Ethiopia was established on November 30, 1943 with a capital of one million Marian Treasury of the Ministry of Finance. Pursuant to the Monetary and Banking Law of 1963 the State Bank of Ethiopia that had served as both a central and a commercial bank was dissolved and split into the National Bank of Ethiopia and Commercial Bank of Ethiopia Share Company. Accordingly, the central banking functions and the commercial banking activities were transferred to the National Bank Ethiopia and the Commercial Bank of Ethiopia Share Company respectively.

Further, as per NBE (2010), due to change of government in 1974, and the command economic system which had prevailed in the country, the Commercial Bank of Ethiopia S.C. and other banks and financial institutions were nationalized on January 1<sup>st</sup>, 1975. The nationalized banks were re-organized and one commercial bank, the Commercial Bank of Ethiopia; two specialized banks- the Agricultural and Industrial Bank (AIB), renamed as the Development Bank of Ethiopia (DBE) and a Housing and Savings Bank (HSB) currently named as the Construction and Business Bank (CBB); and one insurance company, the Ethiopian Insurance Corporation were formed.

During the era of state socialism (1974-1991), Ethiopia's financial institutions were charged with executing the national economic plan; state enterprises received bank finance in accordance with the plan's priorities. This system based on the template of the Soviet Union, saw little need to develop the tools and techniques of financial systems (NBE, 2008).

Following the change of Government in 1991 and the change of economic policy directions, financial institutions were re-organized to operate towards a market oriented policy framework. Proclamation No. 83/1994 which had allowed the establishment of private banks has marked the beginning of new era in the Ethiopian banking sector development. Commercial Banks both public and private are currently operational in line with Banking Proclamation No. 592/2008.

Following the enactment of the banking legislations in the country in the 1990s, a fairly good number of private banks have been established. For example, in the 2010/11 fiscal year the total number of banks already operational in the country reached sixteen. Of these banks, thirteen were private and the other three were government owned. During the same period

there were a total of 829 commercial bank branches in the country (NBE, 2011). One branch of a bank on the average is estimated to serve 95,124 people in Ethiopia as at December 2010 (NBE, 2011). There still is also a sign of interest in establishing other new banks by different individuals and groups. Sources from the national bank indicate that, at present, there are over ten banks under the process of establishment. Currently commercial banks work for profit and the role of licensing and supervision is entrusted to the NBE.

Looking into performance of the banking sector; the deposit mobilized by the banks as at June 2010 was registered to be Ethiopian Birr (ETB) 98.6 Billion and its average growth rate since 2005/06 was 22 percent. On the other hand, the level of outstanding loans for the same period was ETB 62.2 Billion, which is 63 percent of total deposit. Total deposit in relation to total GDP was noted to be about 12 percent. Soundness indicators of the banking system in Ethiopia show that:

- Capital adequacy ratio is well above the minimum requirement of 8% of risk-weighted asset;
- The level of non-performing loans has substantially declined and is less than 5% for most of the banks, in line with the NBE directives;
- Return on equity which is to the tune of 30% is steadily improving;
- Exposure to foreign liabilities is very minimal; and
- All Banks register a positive profit after tax (NBE, 2011).

Although the banking industry in Ethiopia has about hundred years of experience, the sector is yet to develop and is still in its infancy or growing stage. The banking sector in Ethiopia provides the most basic banking products including deposit facilities, loans and advances,

fund transfer (local /global) , import/export facilities, and guarantees. Recently, most of the banks are striving to improve their service delivery through introducing different IT solutions. Recent trends also indicate that banks are competing in the market on the basis of branch expansion, advertisements, raising capital bases, improved service delivery, and investment on IT software and infrastructure. However, these technological innovations are at their infant stage and the sector is required to do much more to meet its customer expectations (NBE, 2010)

Banking business is done in accordance to “Banking Business Proclamation No. 592/2008” and different directives on banking business operations issued by the central bank, which is the National Bank of Ethiopia.

All the banks are now regulated by the central bank which is the National Bank of Ethiopia. A central bank plays the most influential role in a country’s economic and financial development. Generally, the primary role of a central bank is the same in all countries. It acts as a banker and financial advisor to the government as the nation’s monetary authority, and is responsible to the government for promoting monetary stability in the country. To improve the stability of the financial system further, a central bank will act as a banker to the banking and other financial institutions in the country. Consequently, a central bank can influence the lending policy of commercial banks and thus their debt recovery.

Banking is a highly regulated industry in Ethiopia for a number of reasons. Some of the reasons include protecting depositors’ fund, ensuring safety and stability of the banking system, protecting safety of banks (that means to limit credit to a single borrower), and

limiting or encouraging a particular kind of lending because of expected impact on the economy. For these and other reasons, the Ethiopian government issued the following Bank proclamations.

The first Banking proclamation is for the re-establishment of NBE (FDRE, 591/2008). The proclamation sets out the purpose, powers and duties of the central bank. According to Federal Democratic Republic of Ethiopia (FDRE, 2008) proclamation No 591/2008, the functions of NBE include:

- License and regulate banks, insurance companies and other financial institutions in accordance with the relevant laws of Ethiopia,
- Determine on the basis of assessing the received deposit, the amount of assets to be held by banks. (Reserve requirement),
- Issue directive governing credit transactions of banks and other financial institutions, and
- Determine the rate of interest.

The Second proclamation is banking business proclamation (FDRE, 2008) proclamation No 592/2008. The proclamation sets the following banking business issues:

- Requirement for obtaining license for banking business in Ethiopia,
- Prohibit foreign nationals or organizations fully or partially open banks or branch offices, Subsidiaries of foreign bank in Ethiopia or acquire the shares of Ethiopian banks,
- Limitation of the acquisition of shares,

- Appointment of bank directors and officers,
- Maintenance of required capital, legal reserve and adequate liquidity and reserve balance,
- Limitations on certain transaction (investment),
- Inspection of banks, and
- Revocation of license.

## 2.3 Conclusion

This chapter discussed the roles banks play in an economy along with bank lending. It also covered the processes bank pursue in their credit methodology from customer selection to loan sanctioning and follow-up. The various risks the banking sector face with special emphasis on credit risk was also discussed. In addition, definition, impact and how nonperforming loans occur were discussed in detail.

The chapter also presented the historical back ground and development of the banking industry in Ethiopia. It had further indicated the fact that the Ethiopian current banking system is dominated by public banks and the private banks are entering to the industry in recent years and the various types of services given by Ethiopian banks that also include lending. With regard to regulating banks, it was stated that two banking proclamations were issued in the year 2008 by the Ethiopian government.

## CHAPTER THREE

### LITERATURE REVIEW

The focus of chapter two was to give theoretical and conceptual foundation of the study. This chapter presents the literature review focusing on the empirical evidence on determinants of nonperforming loans. Accordingly, the first subsection, 3.1 presents determinants of nonperforming loans in general. The second subsection 3.2 discusses review of literature on the macroeconomic determinants of nonperforming loans. The next subsection 3.3 discusses studies made earlier on bank specific determinants of nonperforming loans. Finally subsection 3.4 present previous studies in Ethiopia. Section 3.5 is dedicated to conclusion and knowledge gap.

#### 3.1. Determinants of Nonperforming Loans

Deterioration in banks' loan quality is one of the major causes of financial fragility. Past experience shows that a rapid build-up of bad loans plays a crucial role in banking crises (Demirgüç-Kunt and Detragiache, 1998, and González-Hermosillo, 1999). In recent years, the global financial crisis and the subsequent recession in many developed countries have increased households' and firms' defaults, causing significant losses for banks.

Default culture is not a new dimension in the arena of investment. Rather in the present economic structure, it is an established culture. The redundancy of unusual happening becomes so frequent that it seems people prefer to be declared as defaulters (Sonali, 2001).



Generally, in developing and underdeveloped countries, the reasons for default have a multidimensional aspect. Various researchers have concluded various reasons for loan default.

The literature reviewed concentrate on two grand factors- macroeconomic and bank specific factors. Studies in the US and the rest of the world provide this result. For instance, Bercoff et al (2002) examine the fragility of the Argentinean Banking system over the 1993-1996 periods; and came up with a finding that NPLs are affected by both bank specific factors and macroeconomic factors.

The rest of this section discusses determinants of nonperforming loans beginning with macroeconomic and then bank specific factors.

### **3.2 Macroeconomic Determinants of Nonperforming loans**

The macroeconomic determinants of the quality of banks' loans have been area of various researchers during the past two decades. The literature on the major economies has confirmed that macroeconomic conditions matter for credit risk. These literatures among others have investigated the linkage between macroeconomic factors like GDP, inflation, real interest rates, unemployment etc. and loan performance. The paragraphs that follow critically review the existing literature on the major macroeconomic factors that have bearing on Nonperforming loans (NPL).

George G (2004) states the fact that large number of the literatures indicates the linkage between the phases of the business cycle with banking stability. Macroeconomic stability and banking soundness are inexorably linked. Both economic theory and empirical evidence strongly indicate that instability in the macroeconomic is associated with instability in banking and financial markets and vice versa.

The researches indicates that the expansion phase of the economy is characterized by a relatively low number of NPLs, as both consumers and firms face a sufficient stream of income and revenues to service their debts. However as the booming period continues, credit is extended to lower-quality debtors and subsequently, when the recession phase sets in, NPLs increase. (Fisher 1933, Minsky 1986, Kiyotaki and Moore 1997, Geanakoplos 2009).

Studies conducted by Keeton and Morris (1987) on a sample of nearly 2,500 US commercial banks using simple linear regressions indicate that large portion of loan losses recorded by the banks ascribe to adverse local economic conditions along with the poor performance of certain sectors. Similar study by Sinkey and Greenwalt (1991) on large commercial banks in the United States from 1984 to 1987 by employing simple log-linear regression model and data also indicates that depressed regional economic conditions explain the loss-rate of the commercial banks. Other authors who looked at asset-price evidence also found a linkage between credit risk increases and adverse macroeconomic conditions (Mueller, 2000; Anderson and Sundaresan, 2000; Collin-Dufresne and Goldstein, 2001).

Study made on Australian banks by Kent and D'Arcy (2000) suggests that, risks peaked at the top of business cycle. Rajan and Dhal (2003) looked at Indian banks and uncovered a similar relationship. Marcucci and Quagliariello (2008) studied the Italian banking system by employing a reduced-form value at risk (VAR) to assess, among other things, the effects of business cycle conditions on bank customers' default rates over the period 1990–2004 found out that the default rates follow a cyclical pattern, falling during macroeconomic expansions and increasing during downturns.

Using a dynamic model and a panel dataset covering the period 1985-1997 to investigate the determinants of problem loans of Spanish commercial and saving banks, Salas and Saurina (2002) reveal that real growth in GDP is among the factors that explain variation in NPLs. Meanwhile, Rajan and Dhal (2003) utilized panel regression analysis to report that favorable macroeconomic conditions (measured by GDP growth) is among the factors that have significant impact on the NPLs of commercial banks in India. Empirical studies tend to confirm the aforementioned link between the phase of the cycle and credit defaults. Quagliarello (2007) find that the business cycle affects the NPL ratio for a large panel of Italian banks over the period 1985 to 2002. Furthermore, Jimenez and Saurina (2005) who examined the Spanish banking sector from 1984 to 2003; provided evidence that NPLs are determined by GDP growth, high real interest rates among others. Salas and Saurina (2002) estimate a significant negative contemporaneous effect of GDP growth on the NPL ratio and infer a quick transmission of macroeconomic developments to the ability of economic agents to service their loans.

Furthermore, Cifter *et al* (2009), using neural network based wavelet decomposition, find a lagged impact of industrial production on the number of non-performing loans in the Turkish financial system over the period January 2001 to November 2007. Bercoff, Giovanni and Grimard (2002) analyzed Argentina's banking system using an accelerated failure time model and found that the money multiplier, reserve adequacy among other are factors affecting NPLs.

Further macroeconomic instability which is mostly manifested by high inflation rate also makes loan appraisal more difficult for the bank, because the viability of potential borrowers depends upon unpredictable development in the overall rate of inflation, its individual components, exchange rates and interest rates. Moreover, asset prices are also likely to be highly volatile under such conditions. Hence, the future real value of loan security is also very uncertain (Martin Brownbride, 1998) We also see that banks do poorly both when product and asset price prudential policy, inflation accelerates unexpectedly and when inflation decelerates unexpectedly, unemployment increases, and/or aggregate output and income decline unexpectedly. Unexpected accelerations in inflation adversely affect banks that, on average, lend longer term at fixed-rates than they borrow because nominal interest rates will raise more than expected. This will increase their cost of deposits more than their revenues from loans.

An increase in the unemployment rate could influence negatively the cash flow streams of households and increase the debt burden. With regards to firms, increases in unemployment may signal a decrease production as a consequence of a drop in effective demand. This may lead to a decrease in revenues and a fragile debt condition.

The interest rate affects the difficulty in servicing debt, in the case of floating rate loans. This implies that the effect of the interest rate should be positive, and as a result the increasing debt burden caused from rising interest rate payments should lead to a higher number of NPLs.

Macroeconomic instability would have consequences for the loan quality of banks in any country. High inflation increases the volatility of business profits because of its unpredictability, and because it normally entails a high degree of variability in the rates of increase of price of the particular goods and services which make up the overall price index. The probability that firms will make losses rise; as does the probability that they will earn windfall profits.

Studies conducted on banks in different economies also depict the correlation between macroeconomic factors like inflation, unemployment and interest rate and loan defaults. Some of the studies would further be pinpointed in the paragraphs that follow.

Study by Fuentes and Maquieira (2003) on Chilean banks; indicates that interest rates had a greater effect on NPLs than the business cycle. Other macroeconomic variables, in particular the exchange rate, unemployment, and asset and house prices are also important factors affecting NPL (IMF, 2006).

Hoggarth et al. (2005) employed UK quarterly data for the period 1988–2004 to evaluate the dynamics between banks' write-off to loan ratio and several macroeconomic variables found out that banks' write-off ratio also increases after increases in retail price inflation and nominal interest rates. Similarly, Babouček and Jančar (2005) quantify the effects of macroeconomic shocks on the loan quality of the Czech banking sector for the period 1993–

2006 and report evidence of a positive correlation of non-performing loans with the unemployment rate and consumer price inflation.

Gambera (2000) assesses the impact of state and nation-wide macroeconomic variables on the quality of different types of loans (agricultural, commercial, industrial and residential) using US quarterly data for 1987–1999. The author reports that the unemployment rate, farm and non-farm incomes, bankruptcy filings and car sales, among various explanatory variables, were significant predictors of bank asset quality.

Filosa (2007), estimating three distinct Value at Risk (VAR) models over the period 1990–2005 with different indicators of banks' soundness, finds a somewhat weaker relation between macroeconomic developments and banks' soundness. On the other hand, he finds that deterioration (improvement) in the quality of loans weakens (reinforces) real activity and inflation.

Study by Kalirai and Scheicher (2002) who employed a simple linear regression to examine the interdependence of credit risk for Austrian banks during the period 1990–2001 concluded that the loan quality was influenced in particular by the short-term nominal interest rate, industrial production, the stock market return and a business confidence index .

Arpa et al. (2001) assess the effects of macroeconomic developments on risk provisions (calculated as the ratio of total provisions for loans to the sum of total loans and total provisions for loans) of Austrian banks for the period 1990–1999 by the use of a single-equation time series model indicating that, risk provisions rise when real gross domestic product growth declines, real interest rates fall and real estate prices increase.

Shu (2002) used a single-equation time series model to examine the impact of macroeconomic developments on loans quality in Hong Kong for the period 1995–2002. The results show that the ratio of bad loans to performing loans falls with higher real gross domestic product growth, higher consumer price inflation rate and higher property prices growth, whereas it rises with increases in nominal interest rates.

Bercoff et al (2002) examined the fragility of the Argentinean Banking system over the 1993-1996 periods; they argue that NPLs are affected by both bank specific factors and macroeconomic factors.

Using a pseudo panel-based model for several Sub-Saharan African countries, Fofack (2005) finds evidence that economic growth, real exchange rate appreciation, the real interest rate, net interest margins, and inter-bank loans are significant determinants of NPLs in these countries. The author attributes the strong association between the macroeconomic factors and non-performing loans to the undiversified nature of some African economies.

Macro and banking stability are closely linked, so that what happens in one affects the other. The evidence for most countries suggests that, except where the banks are state owned or heavily state controlled, instability generally starts in the macro economy and spills over into the banking sector. The resulting banking instability, in turn, feeds back and amplifies the macro instability. Thus, to enhance overall stability in the economy, it is necessary both to pursue successful contra cyclical macroeconomic policy and to reduce the fragility of banking relative to the magnitude of macro shocks that may be expected in the particular economy (Tandon Committee, 1998).

Generally looking, the effect of macroeconomic instability on the financial sector and banking in particular makes it a cause for non-performing loans. Because financial institutions basically deal in forward contracts, whose profitability hinges greatly on the ability to predict future prices, they do not do well in volatile environments that increase uncertainty and make forecasting more difficult. To reduce their risk exposure, the banks collateralize their loans with either the borrowers' estimated future income and/or the estimated future value of specified assets. If either the realized income or realized asset prices fall sufficiently short of the projected values, the borrower may default and generate losses for the bank (Machiraju,).

The choice of GDP, unemployment and interest rate as the primary determinants of NPLs may also be justified from the theoretical literature of life-cycle consumption models. Lawrence (1995) examines such a model and introduces explicitly the probability of default. The model implies that borrowers with low incomes have higher rates of default. This is explained by their increased risk of facing unemployment and being unable to pay. Additionally, in equilibrium, banks charge higher interest rates to riskier clients. Rinaldi and Sanchis-Arellano (2006) extend Lawrence's model by including the possibility that agents can also borrow in order to invest in real or financial assets.

Summing up, the existing empirical evidence shows, quite convincingly, that favorable macroeconomic conditions, such as sustained economic growth, low unemployment and interest rates, tend to be associated with a better quality of bank loans; under favorable economic circumstances, borrowers receive sufficient streams of income and meet their debt



obligations more easily. Furthermore, these results are robust to different empirical methodologies and hold across countries.

### **3.3 Bank Specific Factors causing Nonperforming Loans**

Macroeconomic factors which are viewed as exogenous forces influencing the banking industry should not be sought exclusively in determining NPLs. In contrast, the typical nature of the banking sector along with the specific policy choices of a particular bank with regard to its efforts to maximize efficiency and improve in its risk management are expected to exert a vital influence on the evolution of NPLs. A few literatures have examined the connection between bank-specific factors and NPLs. Literature on bank specific determinants of nonperforming loans are reviewed in the section that follows.

#### **3.3.1 Rapid Loan Growth**

Studies indicate that loan delinquencies are associated with rapid credit growth. Keeton (1999) who used data from commercial banks in the United States (from 1982 to 1996) and a vector auto regression model indicate this association between loan and rapid credit growth. Sinkey and Greenwalt (1991) who have also studied large commercial banks in the US and found out that excessive lending explain loan –loss rate. Salas and Saurina (2002) who studied Spanish banks found out that credit growth is associated with non performing loans. Besides, study by Bercoff, Giovanni and Grimard (2002) shows that asset growth explains NPLs.

Similarly Weinberg (1995) uses data on the growth rate of total loans and loan charge-offs in the United States from 1950 to 1992 to show a pattern of increases in lending preceding increases in loan losses. Weinberg (1995) hypothesizes that risk-neutral lenders increase lending during periods of economic expansion because the expected returns from investment projects improve, and therefore, the expected returns from all loan customers rise.

Supply-side explanations of the expansion of bank loans frequently suggest a relaxation of underwriting standards, whereas loan contractions are said to suggest a tightening of standards. So with growth of loan size comes poor loan performance ascribing to the relaxed underwriting standard.

### **3.3.2 High Interest Rate**

Banks that charge high interest rate would comparatively face a higher default rate or non performing loans. Study by Sinkey and Greenwalt (1991) on large commercial Banks in US depict that a high interest rate charged by banks is associated with loan defaults. Rajan and Dhal (2003) who used a panel regression analysis indicates that financial factors like cost of credit has got significant impact on NPLs. Study by Waweru and Kalini (2009) on the commercial banks in Kenya using statistical analysis indicates that high interest rate charged by the banks is one of the internal factors that leads to incidence non-performing loans. Besides, studies by Berger and DeYoung, 1997, for the US; Jimenez and Saurina, 2006, for Spain; Quagliariello, 2007, for Italy; Pain, 2003, for the UK; and Bikker and Hu, 2002,( for 29 OECD countries) banks profit margin exhibited by high interest rate affects occurrence of NPLs.

### **3.3.3 Lenient Credit Terms**

Credit sanctioning that has not duly considered the credit terms would potentially lead to occurrence of poor loan performance. Jimenez and Saurina (2005) in their study conducted on the Spanish banking sector from 1984 to 2003 evidence that NPLs are determined by lenient credit terms. Cause for the lenience is attributed to disaster myopia, herd behavior, moral hazard and agency problems that may entice bank managers to take risk and lend excessively during boom periods as per this study. Rajan and Dhal (2003) who studied the Indian commercial banks also found out terms of credit determines occurrence of Nonperforming loans.

Rajan (1994) hypothesizes that bank managers have short-term decision horizons because their reputations are strongly influenced by public perceptions of their performance, as evidenced by short-term earnings. Managers' reputations suffer if they fail to expand credit when the economy is expanding and bank earnings are improving. This herd behavior will result in some loans going to customers with higher default risk than would occur otherwise. Weinberg (1995) also suggests that bank managers adjust lending standards as market conditions change, seeking to smooth overall lending risk.

The Office of the Comptroller of the Currency (OCC, 1988) concludes that the dominant reason for bank failure in the early 1980s was poor bank management, which encompasses lax lending standards. An FDIC study of the causes of the banking crises of the 1980s and early 1990s (FDIC, 1997) finds that a combination of factors – economic, legislative, managerial, and regulatory – led to the banking crises.

Importantly, the FDIC study finds that bank managers adjusted lending practices as economic conditions changed, increasing lending into economic and sectoral booms and reducing lending during economic contractions. In addition, the FDIC study suggests that bank managers reacted to competition from other bankers and that this competition might have encouraged a weaker lending standard that leads to loan defaults.

Besides study by Waweru and Kalini (2009) indicates lack of proper skill amongst loan officials, speedy process of evaluating loans mainly due to external pressure, are among the factors that lead to huge concentration non performing loans.

Commercial banks and other financial institutions experienced an increase in competition in the United States during 1980 and early 1990. This resulted in a change in lending practices. Due to the competition and the pressure to deliver increasing returns, banks increased the granting of credit facilities to marginal borrowers. These facilities were aggressively priced to compensate for the increase in risk. Although the strategy delivered short-term results, credit losses followed and in many cases caused banks to fail (Koch & MacDonald, 2003). The failure of banks can therefore, not only be linked to unfavorable economic environments, but also to the nature of the credit policies they employ.

### **3.3.4 Credit Orientation**

Financial sector development goes hand in hand with orientation of the public. Study conducted by Rajan and Dhal (2003) indicate that credit orientation significantly affects loan default rate as per their panel regression analysis conducted on commercial banks on India.

### **3.3.5 Bank Size**

Study by Cole et al. (2004) used data obtained from the 1993 Federal Reserve National Survey of Small Business Finance and bank financial reports, suggest that smaller banks adopt small business loan underwriting practices that are riskier than those of larger banks, riskier in that small banks prefer to lend to small firms that lack hard financial data to support the lending decision and riskier to the extent that the failure rates of small businesses are higher than those of larger, established firms.

In their study of commercial banks in India, by use of panel regression analysis Rajan and Dhal (2003) indicates that , banks size have significance on occurrence of NPLs . Salas and Saurina (2002) indicated that bank size, is among the factors that explained variations in NPLs for Spanish banks. Studies by Berger and DeYoung, 1997, for the US; Jimenez and Saurina, 2006, for Spain; Quagliariello, 2007, for Italy; Pain, 2003, for the UK; and Bikker and Hu, 2002, for 29 OECD countries) also shows that Bank size is significantly related rate of occurrence of loan default.

### **3.3.6 Cost Efficiency**

Hughes et al. (1995) link risk taking to banks' operating efficiency. The argument is that risk-averse managers are willing to trade off reduced earnings for reduced risk, especially when their wealth depends on the performance of the bank. In order to improve loan quality, they will increase monitoring and incur higher costs, affecting the measure of operating efficiency. Therefore, a less efficient bank may in fact hold a low risk portfolio. Bercoff, Giovanni and Grimard (2002) also showed that operating efficiency helped explain NPLs.

### **3.3.7 Ownership structure**

Hu et al (2006) analyzed the relationship between NPLs and ownership structure of commercial banks in Taiwan with a panel dataset covering the period 1996-1999. The study shows that banks with higher government ownership recorded lower non-performing loans.

Walter and Werlang (1995) found that state-owned financial institutions underperform the market, because their portfolios concentrate on the non-performing loans indebted by the state. Jang and Chou (1998) adopt the ratio of non-performing loans to total loan as the measure of risk by using 1986-1994 data of 13 Taiwanese banks for empirical study. The average risk-adjusted cost efficiency of the four provincial government-owned banks was the lowest among the sample banks.

### **3.3.8 Poor Loan Follow-up (Monitoring)**

Regular monitoring of loan quality, possibly with an early warning system capable of alerting regulatory authorities of potential bank stress, is essential to ensure a sound financial system and prevent systemic crises. (Agresti et al.,2008).

The need to give due attention to borrower thus need not be overemphasized in order to ensure loan performance. There is a tendency by borrowers to give better attention to their loans when they perceive they got better attention .Some of the loans defaults ascribe to lower level of attention given to borrowers. It is advised that banks keep up with their loans timely (Mayers, undated).

Banks rarely lose money solely because the initial decision to lend was wrong. Even where there are greater risks that the banks recognize, they only cause a loss after giving a warning sign (Machiraju). More banks lose money because they do not monitor their borrower's property, and fail to recognize warning signs early enough. When banks fail to give due attention to the borrowers and what they are doing with the money, then they will fail to see the risk of loss. The objective of supervising a loan is to verify whether the basis on which the lending decision was taken continues to hold good and to ascertain the loan funds are being properly utilized for the purpose they were granted.

In order to meet these objectives banks need to see whether the character of the borrower, its capacity to repay the loan, capital contribution, prevailing market conditions and the value of the collateral that was taken during loan approval time continues to remain the same (George G, 2004).

As has been mention under section 3.1.4 a bank can use different ways to monitor the borrower. Follow up the financial stability of a borrower can be done by periodically scrutinizing the operations of the accounts, examining the stock statements and ascertaining the value of security. Visiting the borrower periodically to have understanding of the progress of the borrower's business activity and thereby give advice as necessary is also among the methods Banks adopt to follow up their loans.

It is clear that effective credit monitoring involves looking into various operations of the company including operations of the loan, checking whether the company is properly managed, and the environment in which the company is carrying out its business is satisfactory.

Constant monitoring increases the chance that the company will respond to a bank's concern and provide information more willingly. A bank which always closely follows a company's standing can often point out danger or opportunities to the company, as well as quick agreement to request for credit. It thus establishes that monitoring is basically constructive, and not a panic reaction and carries more weight when it expresses concern (Donaldson, undated)

A bank should have clearly defined continuous procedures for identifying potential bad and doubtful loans. These procedures should include regular independent reviews of the loan portfolio. Within this system, there should be formal procedures for the continuous review of all large loans and all areas of lending concentration. These reviews should place particular emphasis upon the borrower's continuing ability to service the loan. Failure to do these continuous reviews and monitoring will lead to loss to banks or increases the risk of such losses.

From the regulatory point of view, Ethiopian banks are required to make continuous review of their loan and submit reports to the central bank. This function of banks has a legal as well as contractual base. But the detail as to the frequency of visiting the borrower's premises, verifying the use of the loan and other related circumstances is left to the discretion of individual banks. The legal base for banks to do the review is provided under Article 5 of Directive No.SBB/43/2008.



### **3.3.9 Poor Risk Assessment**

Risk, and the ways, in which it can be identified, quantified and minimized, is key concerns for a bank's management and its auditors when they are considering the need to provide for bad and doubtful loans. No loan is entirely without risk. Every loan, no matter how well it is secured, and no matter who is the borrower, has the potential to generate loss for the lender. It is the degree of risk to which a loan is susceptible and the probability of loss that vary; these should normally be reflected in the interest margin and other terms set at the inception of the loan (Brown, 1993).

A bank, in considering whether to lend or not, takes into account the quality of a borrower which is reflected in, inter alia, its past and projected profit performance, the strength of its balance sheet (for example, capital and liquidity) the nature of and market for its product, economic and political conditions in the country in which it is based, the quality and stability of its management and its general reputation and standing. It is important for the bank to know the purpose of the loan, to assess its validity and to determine how the funds required for the payment of interest and the repayment of capital will be regenerated.

The borrower's ability to repay a loan is of paramount importance. Ideally, the loan will be self- financing in that it will be repaid from the cash flow that the borrower is able to generate from employing the proceeds of the loan. A bank will often require security for a loan in the form, say, of a guarantee or mortgage, in which case it will be concerned about the value and title of that security. The decision to grant loan, however, should be based on the prospects and solvency of the borrower and a careful analysis of how the funds to repay the loan will be generated.

In general, banks lack effective measures to identify, quantify and control the regional and industrial risk, constrained by obtaining historical data, decentralized information systems and immature portfolio management skills. So they have to make judgment mainly based on personal experience and consequently have weak management measures on concentrated and systemic risk (Ning, 2007).

Basically, the non- performing loans are a result of the compromise of the objectivity of credit appraisal and assessment. The problem is aggravated by the weakness in the accounting, disclosure and grant of additional loans. In the assessment of the status of current loans, the borrower's credit worthiness and the market value of collateral are not taken into account thereby rendering it difficult to spot bad loans (Patersson, 2004). Compromise in quality of risk assessment thus leads to occurrence of nonperforming loans.

### **3.3.10 Lack of Strict Admittance Exit Policies**

Under the influence of idea of pursuing market share excessively, banks do not establish detailed and strict market admittance policies, which undermine the first risk to prevent gate and weaken the orientation effect of admittance policies to market ( Shofiqul Islam,2005).

During pre-loan investigation, bank officers put little emphasis on authenticity and integrity review on related materials. They don't clarify the true intended usage of the loan (especially when extending short-termed credit) and the review is too optimistic, which does not analyze the potential influence of changes in related factors. There is also no deep review on the market, no enough understanding on enterprises' operation management situation, no thorough risk revaluation; inaccurate assessment, the risk of loans is not fully covered and

the risk on group customers and affiliated enterprises are not identified effectively. The factors above damage the loans at the early stage (Brownbrige, 1998).

Furthermore, some banks neglect the fact that the loan procedures are not completed or detailed and the review materials are not enough; some operate in different procedures than the review materials, for instance, signing loan contract before approval of the loan, issuing letter of credit or bank acceptance before approval; consolidated credit is not fully realized, and credit to some group members is not included in the consolidated credit management. Some extend credit against the rules, i.e. exceeding authority to offer loans, splitting one big number into several small pieces to avoid the authority constraint, issuing bank acceptance to fund enterprises on a rolling basis, or discount without actual trade background.

Most problems in this case relates with accepting guaranty from unqualified institutions, high loan-to-value ratio, providing loans without property registration and transfer of collateral, guaranty for each other between enterprises and legally flawed credit procedures etc. And there are also problems in which that the conditions of the loans are not satisfied and the contracts of loans are not completed.

Though the primary role lies on banks to evaluate their admittance and exit policies, they are subjected to the general laws of a country on banking business. In the Ethiopian Banking context banks are also required to submit reports to NBE on their loan disbursement as well as their outstanding and collected loans showing whether their lending procedure is according to the regulatory guidelines and laws.

Thus failure to include strict admittance and exit policies and thereby provisions for accountability in the credit manual of banks would create a loop hole that would eventually lead to occurrence of loan default.

The heart of any successful commercial lending function is credit discipline written in loan policy, structured loan approval process and strong loan administration function (Barrickman, 1990).

As discussed above, efficient banks and financial markets promote macro development.

This development leads to growth in overall economy and most countries work towards ensuring that development. Accordingly, ensuring sound financial system and creating efficient banks by reducing non- performing loans becomes important. Usually giving solutions to non- performing loans arises from identifying the probable causes for its creation.

Regular monitoring of loan quality, possibly with an early warning system capable of alerting regulatory authorities of potential bank stress, is thus essential to ensure a sound financial system and prevent systemic crises. In this regard, the analytical tools currently under scrutiny in the context of macro-prudential regulation do in fact assign great emphasis to indicators of asset quality (Agresti et al. (2008).

Before preceding to issues pertaining to research methodology in the next chapter, the paragraph that follows touch upon earlier studies made in Ethiopia on the subject of NPL.

Despite the fact that several studies were conducted by different researchers on the Ethiopian Banking sector, empirical studies on determinant of nonperforming loans could hardly be

traced with exception of Zewudu (2010) who has indicated the relations between banks health (NPL) and lending. Zewudu also indicated in the study that NPL is also among the factors that are used as performance measurement of the sector in Ethiopia. However, the study was focused on performance measurement of banks that it lacked empirical evidence as to what caused occurrences of NPL. On the other hand Tihitina (2009) who studied legal problems in realizing nonperforming loans of Ethiopian Banks also highlighted major problems in realizing non performing loans in Ethiopian banks and solutions thereof. Tihitan's study also concentrated on resolving NPL and as such issues of factors that because it was not subject of the research though theoretical review of some of the factors causing NPL were discussed.

### **3.4 Conclusions and identification of knowledge gap**

This chapter reviewed literatures relevant to determinants of nonperforming loans and previous research in Ethiopia.

Ample researches were conducted on determinants of nonperforming loans of Banks. These studies that showed that macroeconomic and bank specific factors determined occurrence of nonperforming loans. The empirical evidence shows, quite convincingly, that favorable macroeconomic conditions, such as sustained economic growth, low unemployment and interest rates, tend to be associated with a better quality of bank loans.

The studies in general depicted the association between GDP, inflation, effective interest rate, unemployment and loan qualities. Further bank specific factors like, bank size, credit terms, interest margin, rapid loan growth, credit orientation, operating efficiency, policies on

borrower admittance, risk assessment and monitoring are found to be having significance on the occurrence of NPL.

Most of the literature reviewed covered studies both in developed and developing countries' banking sector. However, there were only limited literatures available for this research on African banks, with the exception of one study on Sub Sahara Africa and another on Kenyan commercial banks.

Previous study in Ethiopia directly related to this research i.e. bank specific determinants of nonperforming loan, to the knowledge of the researcher, is not found though there are other researches done on banking sector in Ethiopia. Therefore, this researcher will contribute towards filling the gap by examining the factors that affect occurrence of nonperforming loans.

The next chapter presents the research methodology used to meet the objective of this research project.

## CHAPTER FOUR

### RESEARCH METHODOLOGY

Chapter three has presented the review of the existing literature on the determinants of nonperforming loans and identified the knowledge gap. This chapter discusses the research design. The chapter is organized in four sections. The first subsection 4.1 presents the research problem along with the broad research objective and research questions. Subsection 4.2 discusses the research approaches while subsection 4.3 presents the methods planned to be used in the study.

#### 4.1. Research problem, broad objective, research questions

Banks provide financial intermediation services through their lending. Lending is considered the most important function for banks fund utilization as major portion of their income is earned from loans and advances. On the other hand it is also one of the risky areas of the industry. In fact of all the risks Banks face, credit risk is considered as the most lethal as bad debts would impair banks profit.

Credit risk arises from uncertainty in a given counterparty's ability to meet its obligations. If these uncertainties materialize they would lead to deterioration of loan qualities. Impaired or Non-performing loans proportion is one of the factors that depict soundness of the banking sector. Thus identifying the determinants of nonperforming loans is very vital to minimize loan default. Non-performing loans proportion is one of the determinant factors that depict soundness of the banking sector. Thus, the broad objective of this study was to identify and investigate the determinants of nonperforming loans in the context of Banks in Ethiopia.

In the context of the above broad objective the following specific research questions (RQ) have been developed:

*RQ1. What are bank specific determinants of non-performing loans?*

*RQ2. Is there a relationship between credit admittance policy, loan underwriting and risk assessment and level of nonperforming loans?*

*RQ3. Does credit monitoring determine loan default?*

*RQ4. Is there a relationship between collateralized lending and non performing loans?*

*RQ5. What is the impact of credit culture on loan default?*

*RQ6. Do credit terms and price affect loan performance?*

*RQ7. Does rapid credit growth and greater risk appetite lead to non performing loans?*

*RQ8. Is there any relation between bank ownership structure and size and loan default?*

## **4.2 Research Approaches**

According to Kotzar et al., (2005), research design is defined as the plan and structure of investigation and the way in which studies are put together. Cooper et al. (2003) also define research design as the process of focusing on the researcher's perspective for the purpose of a particular study. Leedy and Ormrod (2005) define a research methodology as a means to extract the meaning of data.

There are three types of research approaches namely, quantitative, qualitative and mixed methods research approach (Leedy and Ormrod, 2005).The following discussions briefly present the basic features of these research approaches.



#### **4.2.1 Quantitative research approach**

This approach is used to answer question about relationships among measured variables with the purpose of explaining, predicting and controlling phenomenon. Quantitative research approach has two strategies of inquiry. The first is survey design which provides a quantitative or numeric description of trends, attitude or opinion of a population by studying a sample of that population. From the sample the researcher generalizes about the population. The second type of design is experimental design used to test the effect of intervention on an outcome, controlling all other factors which may influence that outcome. In experiment design researcher may also identify a sample and generalize to a population (Creswell, 2009). The analysis is made based on deductive reasoning, beginning with certain theory or hypotheses and drawing logical conclusions from it.

This approach has advantage of stating the research problem in very specific and set terms (Frankfort-Nachmias & Nachmias, 1992); eliminating or minimizing subjectivity of judgment (Kealey & Protheroe, 1996); following firmly the original set of research goals, arriving at more objective conclusions, testing hypothesis, determining the issues of causality; achieving high levels of reliability of gathered data due to controlled observations, laboratory experiments, mass surveys, or other form of research manipulations (Balsley, 1970) and allowing for longitudinal measures of subsequent performance of research subjects among others.

Despite this, the quantitative approach has the following shortcomings: failure to provide the researcher with information on the context of the situation where the studied phenomenon occurs; limited outcomes to only those outlined in the original research proposal due to

closed type questions and the structured format; inability to control the environment where the respondents provide the answers to the questions in the survey; to mention a few.

#### **4.2.2 Qualitative research approach**

According to Leedy and Ormrod (2005) this approach is used to answer questions about the complex nature of phenomena and its purpose is describing and understanding the phenomena.

Unlike quantitative research, qualitative research consists of a body of research techniques that do not attempt to measure, but rather seek insight through a less structured and more flexible approach (Gray, 2004). Exploratory research is conducted when there are few or no earlier studies, which can be referred to. In exploratory research the focus is on gaining insight into the subject and to become familiar with the subject area for more rigorous investigation later (Cooper & Schindler, 2003). Exploratory research can be conducted by using multiple methods to achieve triangulation and can consist of a combination of the following (Saunders, Lewis & Thornhill, 2000; Gray 2004): A literature search, talking to experts in the field, interviews, Case studies, surveys.

The qualitative research process is more holistic with specific focus on design; measuring instruments and interpretation developing possibly change along the way. The approach operates under assumption that reality is not easily divided into discrete and measurable variables.

Qualitative research approach has five common strategies of inquiry. The strategies include case study, ethnography, phenomenological study, grounded theory and content analysis ( Leedy and Ormrod, 2005 ). The approach makes considerable use of inductive reasoning. Under this approach, many specific observations will be made to draw inferences about larger and general phenomenon while personal and literary style language will be used when reporting the findings.

The qualitative method has twofold advantages: First, it focuses on phenomena that occur in natural settings in that it involves studying those phenomena in the context of complex socio-economic settings. Second, qualitative research is often used to generate possible leads and ideas which can be used to formulate a realistic and testable hypothesis, to gain deep insights about the phenomenon. Any hypothesis can then be comprehensively tested and mathematically analyzed with standard quantitative research methods. The major weakness of this approach is that findings may be so specific to particular context that they cannot be generalized to other context.

#### **4.2.3 Mixed research approach**

The mixed methods research approach is used when the researcher combines elements of both quantitative and qualitative approaches. Quantitative and qualitative research approach (mixed) is appropriate for answering different kinds of questions. When mixed approach method is in use there is a tendency to learn more about the research problem. Researchers are given permission to use all of the tools of data collection available rather than being restricted to the types of data collection typically associated with qualitative research or quantitative research

According to Creswell, J. W. (2003) mixed methods research provides strengths that offset the weaknesses of both quantitative and qualitative research. This has been the historical argument for mixed methods research for the last 25 years (Jick, 1979). The argument goes that quantitative research is weak in understanding the context or setting in which people talk. Also, the voices of participants are not directly heard in quantitative research. Further, quantitative researchers are in the background, and their own personal biases and interpretations are seldom discussed. Qualitative research makes up for these weaknesses. On the other hand, qualitative research is seen as deficient because of the personal interpretations made by the researcher, the ensuing bias created by this, and the difficulty in generalizing findings to a large group because of the limited number of participants studied.

Mixed methods research encourages the use of multiple worldviews or paradigms rather than the typical association of certain paradigms for quantitative researchers and others for qualitative researchers. It also encourages us to think about a paradigm that might encompass all of quantitative and qualitative research, such as pragmatism, or using multiple paradigms in research

Despite its value, conducting mixed methods research is not easy. It takes time and resources to collect and analyze both quantitative and qualitative data. It complicates the procedures of research and requires clear presentation if the reader is going to be able to sort out the different procedures.

Considering the research problem and objective shown in the first subsection and fill the gap that might occur due to usage of only one of the captioned approach, mixed research

approach is appropriate for this study. The following section presents the method to be adopted in the study.

### **4.3 Research Method Adopted**

The purpose of this study is to identify and examine factors that determine the occurrence of loan default. As can be seen from the research problem it is more of explanatory type and tries to assess the relationship between occurrence of NPL and some bank specific factors. In order to benefit from the advantage of quantitative and qualitative approaches, the mixed method will be in use for this study. The subsequent discussions hence present the quantitative and qualitative aspects of this proposed study.

#### **4.3.1 Quantitative aspect of the study**

The purpose of the quantitative aspect of this proposed study is to seek information that can be generalized about the relationship between NPLs and bank specific factors. The study will use survey design with a structured self administered questionnaire and structured record reviews. To gather data which will be used in the study, self administered questionnaires will be distributed to research participants and for structured record reviews (documentary analysis) financial information will be collected from NBE, annual reports of the banks and other relevant sources. The following discussions present the survey design (both survey of bankers' opinion and documentary studies) as planned to be used in this proposed study.

### ***Survey design***

Survey design is concerned with the issue of sample and instrument design, and also actual conduct of the survey. Leedy and Ormond (2005 p.183) state that survey research involves acquiring information about one or more group of people perhaps about their characteristics, opinions, attitudes, or previous experiences-by asking them questions and tabulating their answers. The ultimate goal is to learn about a large population by surveying a sample of that population.

Creswell (2009) also states that the purpose of survey research is to generalize from the sample to the population in order to be able to make inferences about some characteristic, attitude or behavior of the population.

According to Mitchell and Jolley (2007) a survey design is relatively inexpensive way of getting information about peoples' attitude, beliefs and behavior; with a survey one can collect a lot of information on a large sample in a short time.

According to Leedy and Ormond (2005) survey research is a common method used in business research. Survey design is selected for this research because of budget and time constraint i.e. economy of the design.

Survey design is concerned with the issue of sample and instrument design, and also actual conduct of the survey. The subsequent discussions present these aspects of the survey design in respect of the proposed study and the data analysis methods.

### ***Sample design***

Sample design deals with the sample frame/ population, sample size, sampling techniques. Paragraphs that follow discuss issues pertaining to sample frame, sample size and sampling techniques respectively.

According to Diamantopoulos (2004), a population is a group of items that a sample will be drawn from. A sample, on the other hand, refers to a set of individuals/companies/ selected from an identified population with the intent of generalizing the findings to the entire population. A sample is drawn as a result of constraints that make it difficult to cover the entire research population (Leedy and Ormord, 2005).

For this research the target population was all banks registered by the National Bank of Ethiopia (NBE) and under operation before the fiscal year 2007/2008. The cut off year was set due to the importance of experience in the industry to understand factors that would cause occurrence of loan default. In line with this eleven banks fall in the sample frame.

Further, because of time and budget constraint to survey all the aforementioned banks, a representative sample was selected randomly from among the banks. Selection of sample was based on stratification of banks according to their size, measured in terms of their total asset as at September 30, 2011. Accordingly, six banks constituted the sample to be selected.

For this study banks were stratified in to three levels: Comparatively big in the Ethiopian banking industry (with total assets amounts more than 10 billion birr), medium (5-10 billion birr) and small (below 5 billion birr). To make proportional representation two third of banks from each stratum was selected randomly based on their alphabetical order of names of

respective banks. Accordingly, Awash International Bank and Commercial Bank of Ethiopia from the big category, Bank of Abyssinia, Development Bank of Ethiopia and Nib International banks from the medium, and Construction and Business Bank and Cooperative Bank of Oromia from the low category were selected (See Table 4.1).

**Table 4.1 Ethiopians Banks that have started operation before the year 2007/8**

Bank	Year of Establishment	Total Asset* (September 30,2011)	Category in terms of total Asset	Staff engaged in credit related activities	Sample (46% of staff engaged in credit related activities )
Awash Bank	1994	11,500	Big	40	19
Commercial Bank of Ethiopia	1963	114,000	Big	110	51
Dashen Bank	1995	17,302	Big		-
Bank of Abyssinia Bank	1996	7,700	Medium	40	19
Development Bank of Ethiopia	1970	7,500	Medium	40	19
Nib Bank	1999	7,279	Medium	40	19
United Bank	1998	8,300	Medium		-
Wegagen Bank	1997	8,121	Medium		-
Construction and Business Bank	1975	4,100	Small	30	14
Cooperative Bank of Oromia	2005	2,867	Small	20	9
Lion Bank	2006	2,605	Small		-
Total sample					150

\*Million Ethiopian Birr (ETB)

Source: Surveyed banks



Moreover, due to the fact that bank lending process is practiced by few employees, not all bank employees and officials, the sample frame was confined to those involved in credit analysis and appraisal; credit monitoring, risk management and credit sanctioning team members of the selected banks.

Although it is difficult to generalize from project to project because of resource availability in terms of time, money and personnel availability, as the rule of thumb the sample should be large enough so that there are 100 or more units in each category of major breakdown and a minimum of 20-50 in minor breakdown (Diamantopoulou and Schlegelmich, 2000). According to Fowler (1993) the appropriateness of any sample design feature can be evaluated only in the context of the overall survey objectives. The important point for the researcher is to be aware of the potential costs and benefits of the options and weigh them in terms of the main purpose of the study.

For this research the sample size was 150 which were about 46% of the total population of staff involved in credit related activities in the selected banks. Forty six percent of staffs engaged in credit related activities were randomly selected from each bank included in the study for the questionnaire survey.

### ***Instrument design and data collection method***

The survey was conducted using a structured questionnaire and structured record reviews of selected banks. The questionnaire was prepared in English language and it was classified into three sections. The first part of the questions 1-5 were designed to collect participants' profile (background information). The second part, questions 6-34 in the questionnaire were related

to factors that determine loan default or occurrence of nonperforming loans. Question 6 was designed in such a way that respondents rate factors that determine non performing loans in order of their importance when compared with other factors in the list. Questions 7-33 show a rating (a five- point scale) in each factor that determine occurrence on NPL. A rating 1 indicates a strong agreement, 2 agreement, 3 neutral (don't take position), 4 disagreement and 5 strong disagreement. The self administered questionnaire was delivered to the selected experts engaged in loan related activities. In order to provide feedback, clarification and ensure response a follow up calls were carried out.

In addition, the study used documentary review. Specifically, the financial statements of banks surveyed along with their annual report and central bank's report were used. In this regard financial data of the banks from the year 2005 to 2010 was in use. Special emphasis was given to data sources that provided the total assets, total loans and advances, deposits and respective non performing loan ratio of the banks surveyed.

The purpose was to review whether there is a relationship between bank size (measured in total asset, deposit and loans and advances) and NPL ratio. Besides, banks data was reviewed if banks ownership type (private/state owned) has got a bearing on loan default expressed in NPL ratio.

The documentary review is believed to augment findings in the questionnaire survey and the deep interview to be carried out.

***Data analysis method***

The data collected from survey questionnaire were carefully coded and checked for consistency and entered into the SPSS spreadsheet. The analysis was performed with SPSS ver. 16. Descriptive statistics was employed to analyze data and the results were tested with non-parametric tests of significance. Besides, measures of central tendency (mean, standard deviation) were used to analyze the questionnaire survey result.

To conduct documentary analysis SPSS ver. 16 was in use to run the Pearson correlation between the independent factors and dependent factor. Measures of central tendency (mean and standard deviation) were also used to analyze the variables.

**4.3.2 Qualitative aspect of the research**

To augment the gap that might not be captured by the quantitative survey and to obtain deeper understanding of the bank specific factors that would determine occurrence of nonperforming loans, unstructured interviews were conducted with senior bank officials in the industry. According to Gray (2004), interviewing is an ideal method to obtain data relating to people's views, knowledge and attitudes.

Accordingly, six experienced bankers who were assumed to have a deeper understanding of credit dynamics in the Ethiopian financial industry were interviewed. These were from banks that were covered and uncovered by survey and experts from the NBE. The researcher followed same interview protocol.

According to Straus and Corbin (1998), some researchers believe that qualitative data should not be analyzed and that it should merely be presented. As the information obtained were qualitative in nature and a detailed analysis was not made rather the qualitative data were organized thematically and content analysis was carried out.

#### **4.3.2 Validity, reliability and ethical issues**

Validity and reliability of the research measurement instruments influence, first the extent that one can learn from the phenomena of the study. Second the probability that one will obtain statistical significance in data analysis and third the extent to which one can bring meaningful conclusion from the collected data. Most ethical issues in research fall into one of the four categories: protection from harm, informal consent, right to privacy and honesty with professional colleagues (Leedy and Ormrod, 2005).

##### **4.3.2.1 Validity**

According to Leedy et al (2005), validity is the ability of an instrument used to measure what it is designed to measure. They further explained two basic questions: does the study have sufficient control to ensure that the conclusions the researcher draw are truly warranted by the data and can the researcher use what he/she has observed in the research situation to make generalization to the population beyond that specific situation? The answers to these two questions address the issues of the content validity, internal validity and external validity.

### ***Content validity***

In order to check content validity for the descriptive survey studies, Leedy et al., (2005) suggests three tactics: using multiple sources of evidence, establishing chain evidence and having key informants reviewing draft of the study report. To ensure content validity the target groups included in sample represented were those who know better about the issue being investigated.

### ***Internal validity***

The internal validity of a research study is the extent to which its design and the data it yields allow the researcher to draw accurate conclusions about the relationships within the data. In this case, it's less likely that there will be a Hawthorne effect since the respondents have professional background and knowledge about bank lending and credit management and those who were involved in the interview were not expected to change their behavior during interview. They were also asked to give their consent and they were given all the right not to answer any questions if they did not wish to.

### ***External validity***

External validity is related to the extent to which the findings from one research can be applied to other similar situations. In other words, how the conclusions drawn can be generalized to other contexts (Leedy et al., 2005). According to Leedy et al, these three strategies are: a real life setting, a representative sample and replication in different settings Leedy et al (2005).

To ensure face validity the researcher performed multi method approach i.e. two or more different characteristics measured using two or more different approaches.

#### **4.3.2.2 Reliability**

According to Leedy and Ormrod (2005) reliability of a measurement instrument is the extent to which it yields consistent results when the characteristic being measured has not been changed. Furthermore, Cameron et al., (2007) states that in order to increase reliability, the researcher should use the same template as far as possible and use static methods. To ensure the reliability of measurement instrument the researcher performed first standardize the instrument from one person or situation to another.

Besides, the researcher also believes that this study is reliable since the respondents were selected based on their past experience on credit management and their answers were expected to be credible. Given the credibility of selected respondents, the same answers would probably be given to another independent researcher. Furthermore, ambiguous terms were not used in interviews to avoid confusion.

#### **4.3.2.3 Ethical Issues**

Due consideration was given to obtain consent from each participant about their participation in the study. It was strictly conducted on voluntary basis. The researcher tried to respect participants' right and privacy. The findings of the research were presented without any deviation from the outcome of the research. In addition, the researcher gave full acknowledgements to all the reference materials used in the study.

In general, to help address all the research questions with the methods discussed so far, attempts to show the linkage between research questions and the different data sources were made. The link between research questions and different data sources is presented in table

4.2. Self-administered questionnaires, structured review of financial information collected from each bank and deep interviews were used to address the research questions.

**Table 4.2 Link between RQs and data sources**

<b>Research Question</b>	<b>Data Source</b>
Relationship b/n credit admittance policy, loan underwriting and risk assessment and NPL ( <b>RQ1</b> )	<i>Survey Q 7-10</i>
Relationship between NPL and credit monitoring ( <b>RQ 2</b> )	<i>Survey Q 11-14</i>
Relationship between collateral and non performing loans ( <b>RQ3</b> )	<i>Survey Q 15-17</i>
Effects of credit culture on loan default ( <b>RQ4</b> )	<i>Survey Q 18-21</i>
Effects of credit terms and price on loan default ( <b>RQ5</b> )	<i>Survey Q 22-27</i>
Relations between rapid credit growth and great risk appetite and NPL ( <b>RQ6</b> )	<i>Survey Q 28-31; Data from banks financial statement and interviews</i>
Relation between bank ownership and size ( <b>RQ7</b> )	<i>Survey Q 32-35; Data from banks financial statement and interviews</i>
Bank specif factors affecting NPL ( <b>RQ8</b> )	<i>Survey Q 36; Interview</i>

## Summary

This chapter has presented the research design beginning by discussing the research problems along with the research questions. Discussion of the three research approach was also made with a special emphasis on the approach to be employed for this study. The types of instruments used to collect data and analysis method conducted thereof was also discussed. Issues pertaining to validity, reliability and ethical matter were also presented. The next chapter presents the research result.

## CHAPTER FIVE

### RESULTS

The previous chapters presented orientation of the study, theoretical foundations, literature review and the research methods adopted in the study. This chapter presents the results. As discussed in the preceding chapter this study is aimed at exploring bank specific determinants of nonperforming loans. This chapter tries to present the results of the different sources of data. The chapter is organized into three sections. The first section 5.1 discusses survey results and the second section, 5.2 presents documentary analysis. Section 5.3 is devoted for presentation of the interview results. The last section 5.4 summarizes the results.

#### 5.1 Survey results

The questionnaire was distributed to credit related professionals (including relationship managers, credit analysts, recovery officers, credit managers, loan officers, credit committee members, and risk officers) in seven banks selected randomly from all banks that are operational in Ethiopia and registered before the fiscal year 2007/08.

The questionnaire was physically distributed to 150 employees (whose positions are related to bank lending). Out of 150 questionnaires 137 were completed and collected. As the result the response rate was 91.3 percent. In light of the poor response culture in Ethiopia this is impressive. According to Fowler (1986) researcher or survey organization differ considerably in the extent to which they devote time and money to improve response rate. Thus, there is no agreed-upon standard for a minimum acceptable response rate.



**Table 5.1 Survey response rate**

Sample size	150
Completed and returned questionnaires	137
Response rate	91.3%

Source: Survey outcome and own computation

The sections that follow present profile of respondents' like ownership of the banks they work for, their banking experience, exposure in bank lending and the positions they hold in the banking industry.

### 5.1.1 Respondents' profile

In respect of employment, 43.8 percent of survey respondents were employed in private banks. The rest 56.2 percent were employed in state owned banks (Table 5.2).

**Table 5.2 Employment of respondents**

Employment	Frequency	<u>Percent</u>
Private banks	60	43.8
State owned banks	77	56.2
<u>Total</u>	<u>137</u>	<u>100</u>

Source: Survey outcome and own computation

Looking at the positions of survey respondents revealed that 31.8 percent were bank customer relationship managers while 17.8 percent were recovery/monitoring officers and 12.4 percent were credit directors. Besides, about 3.9 percent of the respondents were bank vice presidents (Table 5.3).

**Table 5.3 Position of the respondents in bank**

<b>Position</b>	<b>Frequency</b>	<b><u>Percent</u></b>
Loan Officer	5	3.9
Relationship manager	41	31.8
Credit analyst	7	5.4
Recovery/ monitoring officer	23	17.8
Credit Director	16	12.4
Vice president	5	3.9
Others*	32	24.8

\*Others include: Risk officers, credit committee members and the related

Source: Survey outcome and own computation

In terms of experience, 35.3 percent of survey respondents indicated that they had 11-15 years of banking experience. The second larger number of respondents, 29.4 percent, had banking experience of above 15 years. The remaining (11 percent) respondents had banking experience of 1-5 years only. This clearly depicts that respondents had rich experience in providing response that naturally contributed to the data quality of the survey (Table 5.4).

**Table 5.4 Respondents' experience in the banking sector**

<u>Years of experience</u>	Frequency	Percent
Less than 1 year	0	-
1-5 years	15	11.0
6-10 years	32	23.5
11-15 years	48	35.3
Above 15 years	40	29.4

Source: Survey outcome and own computation

On the other hand, 51 percent of respondents had 1-5 years of experience in bank lending while 44 percent had lending experience for 6-10 years. Only four percent of the respondents had less than one year of bank lending experience. The fact that majority of the respondents had many years experience in bank credit operations helped capture a good quality of data (Table 5.5).

**Table 5.5 Bank lending experience of the respondents**

<u>Years of experience</u>	Frequency	Percent
Less than 1 year	4	4
1-5 years	51	51
6-10 years	44	44
11-15 years	22	22
Above 15 years	15	15

Source: Survey outcome and own computation

### 5.1.2 Factors that affect bank lending

The study tried to assess the factors that affect bank lending in the context of Ethiopia. The study required respondents to show their agreement or disagreement to certain statements dealing with bank specific factors affecting occurrences of nonperforming loans. Examining the results of the study in this connection reveals that about 75 percent of respondents agreed to the statement “factors affecting bank lending are obvious” while the rest disagreed and were neutral about it.

**Table 5.6 Factors affecting occurrences of NPL are obvious**

Outlook	Frequency	<u>Percent</u>
Agree (1)	103	75.2
Neutral (2)	14	10.2
Disagree (3)	15	10.9
<u>Total</u>	132	96.3
Mean	1.33	
Standard deviation	1.06	

Source: Survey outcome and own computation

In addition to the above, respondents were asked to identify the causes of nonperforming loans in Ethiopian Banks. The responses in this regard are summarized and presented in Table 5.7.

**Table 5.7 Factors considered causing occurrences of NPL in Ethiopian banks**

<i>Factor/Bank</i>	<i>Nib</i>	<i>Awash</i>	<i>Abyssinia</i>	<i>CBB</i> *	<i>DBE</i> *	<i>CBO</i> *	<i>CBE</i> *	<i>Total</i> <i>No of</i> <i>banks</i>
Fund diversion	✓	✓	✓	✓	✓	✓	✓	7
Poor customer selection	✓							1
Poor portfolio diversification	✓			✓	✓			3
Weak governance	✓		✓		✓			3
Unfair competition among banks	✓		✓	✓	✓		✓	5
Unforeseen Business risks	✓			✓			✓	3
Borrowers poor business knowledge and management skill	✓					✓	✓	3
Compromised integrity	✓		✓	✓	✓	✓	✓	6
Willful default	✓		✓		✓		✓	4
Over/under financing		✓	✓	✓	✓	✓	✓	6
Natural disaster affecting agriculture		✓						1
Credit operators capacity limitation		✓		✓		✓		3
Macroeconomic factors		✓				✓	✓	3
Inadequacy of credit policies		✓			✓		✓	3
Macroeconomic policies	✓		✓			✓	✓	4
Management problems			✓					1
Type of business ownership			✓					1
External influence on sanctioning				✓	✓		✓	3
Unavailability of data for analysis					✓	✓	✓	3
Poor regulatory and supervisory frame work					✓	✓		2

\*CBB: Construction and Business Bank; DBE\*: Development Bank of Ethiopia; CBO\*: Cooperative Bank of Oromia; CBE\*: Commercial Bank of Ethiopia

Source: Survey and own computation

Banks specific determinants of nonperforming loans naturally vary across banks due to the uniqueness of each bank. One bank might have strength or weakness on particular aspect. That particular issue may or may not be the case in other banks unlike the macroeconomic

factors that is typical for all operators in particular geography or so. However, in the subjective question in the survey respondents from the seven surveyed banks gave various responses. Some of the responses to cause for occurrences of NPL were all shared by some participants in all the banks surveyed. Table 5.7 indicates factors thought to contribute to the occurrences of nonperforming loans. The last column shows in how many banks a particular factor was believed by respondents to have association with the occurrences of NPL. The fact that a particular factor is pinpointed by all surveyed banks indicates how prevalent that cause could be in the Ethiopian banking industry though a further study might be required to examine it.

***Most prevalent factors indicated to cause occurrence of NPL***

A thorough look into response to the subjective question indicate that some of the factors like, fund diversion, over/under financing, compromised integrity, credit operators capacity limitation, business failures, willful default, poor diversification of portfolio, changing policy environment are commonly shared view by respondents from all the surveyed banks staff ascribing to cause occurrence of nonperforming loans. Besides, respondents from both private and state owned banks staff have so much in common.

Analyzing the response in depth indicates that fund diversion was thought to cause occurrences in all the banks surveyed while compromised integrity and over/under financing were the factors rated by respondents from six banks. Other factors like unfair competition among banks, willful default and macroeconomic conditions were believed to cause occurrences of nonperforming loans by respondents from five and four banks respectively. This in fact had helped capture respondents' views in their own terms as to what cause occurrences of loan default in their own context.

Respondents were also asked to rank factors causing nonperforming loans in Ethiopian Banks in order of importance (from one to eight). The results in this regard indicated that 22 percent of respondents ranked bank size and poor monitoring /follow up as the top ranking factor causing occurrences of nonperforming loans while credit culture /orientation is ranked third factor by 29 percent of the respondents. Thus poor credit monitoring by banks, banks size, poor risk assessment, credit culture/orientation were the top four factors ranked to cause occurrences of nonperforming loans. On the other hand, charging high interest rate and rapid loan growth were factors that were ranked seventh and eighth (Table 5.8).

**Table 5.8 Ranking of factors affecting occurrence of nonperforming loans**

<b>Factors</b>	<b>1<sup>st</sup> %</b>	<b>2<sup>nd</sup> %</b>	<b>3<sup>rd</sup> %</b>	<b>4<sup>th</sup> %</b>	<b>5<sup>th</sup> %</b>	<b>6<sup>th</sup> %</b>	<b>7<sup>th</sup> %</b>	<b>8<sup>th</sup> %</b>
Rapid Loan growth by banks	4	2	6	28	3	24	2	51
High interest rate	2	2	11	13	1	37	5	27
Lenient /Lax credit terms	4	5	17	31	1	23	6	11
Credit culture / Orientation	14	6	29	13	5	7	12	4
Size of the Bank	22	17	21	7	11	4	10	1
Poor monitoring/follow up	22	21	10	4	24	1	14	1
Ownership type of bank	15	19	5	3	29	2	17	1
Poor risk assessment		36	17	3	33	2	41	3

Source: Survey and own computation

Table 5.9 shows responses on factors indicating the relation between credit assessment and occurrence of the nonperforming loans. Only 44 percent of the respondents agree that easily admitted borrowers usually default the average response has a mean 2.79 and standard deviation of 1.09. On the other hand 69.3 percent of the respondents strongly agree (mean 1.33 and standard deviation 0.516) that having in place know your customer (KYC) policy lead to high loan quality. With regard to good loan underwriting, 69.4 Percent of the respondents agree that it ensures loan performance. Poor risk assessment is perceived to lead to loan default by 97.8 percent of the respondents (Table 5.9).

**Table 5.9 Factors indicating relation between credit assessment and loan default**

	<b>Strongly Agree (1)</b> %	<b>Agree (2)</b> %	<b>Neutral (3)</b> %	<b>Disagree (4)</b> %	<b>Strongly Disagree (5)</b> %	<b>Mean</b>	<b>Standard deviation</b>
Easily admitted borrowers usually default	11.2	32.8	26.9	23.9	5.2	2.79	1.090
Know your customer (KYC) policy Of Banks lead to high loan quality	69.3	28.5	2.2	-	-	1.33	0.516
Good loan underwriting ensures Loan performance	19.5	50.4	18	9.8	2.3	2.25	0.957
Poor risk assessment would lead to loan default	65.4	32.4	-	0.7	1.5	1.4	0.682

Source: Survey outcome and own computation



From the above result respondents strongly agree that banks that employ a robust KYC policy in recruiting their customers and also do good risk assessment would have a better loan quality. On the other hand when the loan underwriting is poor, the loans would be prone to default. Respondents view was nearly neutral to the statement “easily admitted customers usually default”. In general the outcome indicates that poor credit risk assessment cause occurrences of nonperforming loans.

Strict loan monitoring is believed to ensure loan performance by 92.7 percent of the respondents. On the other hand 43.7 percent of the respondents (mean 1.74, standard deviation 0.74) disagree with the assertion that loan might perform well if properly monitored despite poor assessment during sanctioning. This indicates that loan follow-up can never substitute proper credit assessment.

However, 61.3 percent of the respondents (mean 2.58, standard deviation 0.194) agree that occurrence of nonperforming loan is directly related loan follow up. On the other hand only 40.1 percent of the respondents agree that banks with higher budget for loan monitoring have lower nonperforming loans, the average response being neutral (mean 3.06, standard deviation 2.56). See Table 5.10

**Table 5.10 Factors indicating credit monitoring and loan default**

	<b>Strongly Agree (1) %</b>	<b>Agree (2) %</b>	<b>Neutral (3) %</b>	<b>Disagree (4) %</b>	<b>Strongly Disagree (5) %</b>	<b>Mean</b>	<b>Standard deviation</b>
Strict monitoring ensures loan performance	38.7	54	2.2	5.1	-	1.74	0.74
Poorly assessed and advanced loans may perform well if properly monitored	4.4	27.7	24.1	32.8	10.9	3.18	0.093
Loan follow up is directly related to occurrence of nonperforming loans	16.3	45.2	9.6	22.2	6.7	2.58	0.194
Banks with higher budget for loan monitoring have lower non performing loans	3.6	36.5	33.6	22.6	2.9	3.06	2.563

Source: Survey outcome and own computation

From the foregoing discussion it can be concluded that credit monitoring is directly related to loan performance. Despite this the respondents didn't support the argument that loan would perform well only by proper monitoring if proper assessment is not carried out while advancing the credit. This indicates that follow up would never substitute credit analysis or assessment.

On the other hand though loan monitoring requires budget, allocating higher budget might not ensure loan performance as a good number of respondents are neutral to the assertion.

With regard to the relation between collateralizing loans and occurrence of nonperforming loans, only 33.8 and 24 percent of respondents agree with statement that collateralizing loan protect loan default and non collateralized loans would be defaulted respectively. However, respondents are of the view that borrowers would service their debt if they have pledged collateral, the response had mean 2.42 and standard deviation 0.997 (Table 5.11).

**Table 5.11 Relation between collateralizing loans and occurrence on NPL**

	<b>Strongly Agree (1) %</b>	<b>Agree (2) %</b>	<b>Neutral (3) %</b>	<b>Disagree (4) %</b>	<b>Strongly Disagree (5) %</b>	<b>Mean</b>	<b>Standard deviation</b>
Collateralized loans perform well	4.4	29.4	26.5	34.6	5.1	3.07	1.013
Collateralizing loans help protect loan default	10.9	59.9	8.8	17.5	2.9	2.42	0.997
Most of the time non collateralized loans are defaulted	3.6	20.4	31.4	38	6.6	3.23	0.972

Source: Survey outcome and own computation

The fact that only small portion, 24 percent of (mean 3.23, standard deviation 0.972) the respondents concur with the argument that non collateralized loan are defaulted or only 33.8 (mean 3.7, standard deviation 1.01) percent only agree with the assertion that collateralizing loans help loan performance indicates that the relation between collateralizing loans and loan default is not strong. However, the respondents are of the view that borrowers would service the loan if they have pledged collateral lest it would be foreclosed in case of default.

With regard to the relation between borrowers' orientation/culture and loan performance, almost only less than five percent of the respondents disagree with the assertion that loan performance is affected by orientation /culture of a society and its development. Thus the result indicates strong relation between culture/orientation and occurrence of nonperforming loans. All of the factors relating to culture indicated agreement. See Table 5.12

**Table 5.12 Relation between borrower's orientation and occurrence of NPL**

	<b>Strongly Agree (1) %</b>	<b>Agree (2) %</b>	<b>Neutral (3) %</b>	<b>Disagree (4) %</b>	<b>Strongly Disagree (5) %</b>	<b>Mean</b>	<b>Standard deviation</b>
Borrower's orientation/culture is related to loan performance	30.9	63.2	5.9	-	-	1.75	0.554
There is a relationship between loan default and borrower's culture	29.4	64	5.1	1.5	-	1.79	0.601
Default in some area is ascribed to the culture of the borrowers	19.7	63.5	12.4	4.4	-	2.01	0.707
Society's cultural development leads to good loan performance	31.4	54.7	10.9	2.9	-	1.85	0.723

Source: Survey outcome and own computation

Only 23.5 (mean 3.21, standard deviation 0.856) percent of the respondents agree with the statement that loan with big interest rate tend to turn to NPL. In a like manner only 19.9

percent (mean 3.25, standard deviation 0.85) of the respondents concur with the argument that charging big interest rate leads to loan default. On the other hand, about 45.1 (mean 2.81, standard deviation 0.89) percent of the respondents agree that loan price might affect loan performance. However, the average responses to all the factors were close to neutral. See Table 5.13

**Table 5.13 Relation between cost of loan and loan default**

	<b>Strongly Agree (1) %</b>	<b>Agree (2) %</b>	<b>Neutral (3) %</b>	<b>Disagree (4) %</b>	<b>Strongly Disagree (5) %</b>	<b>Mean</b>	<b>Standard deviation</b>
Loans with big interest rate tend to turn to NPL	0.7	22.8	33.8	39.7	2.9	3.21	0.856
Charging big interest rate leads to loan default	2.2	17.6	35.3	42.6	2.2	3.25	0.850
Loan price affects loan performance	2.3	42.9	27.1	27.1	0.8	2.81	0.889

Source: Survey outcome and own computation

With regard to factors relating to credit terms (Lax /lenient credit terms, poorly understood terms and /or negotiated credit terms) as to whether they lead to occurrences of loan default responses are indicated under Table 5.14.

**Table 5.14 Credit terms and loan performance**

	<b>Strongly Agree (1) %</b>	<b>Agree (2) %</b>	<b>Neutral (3) %</b>	<b>Disagree (4) %</b>	<b>Strongly Disagree (5) %</b>	<b>Mean</b>	<b>Standard deviation</b>
Lenient / lax credit term cause loan default	14.8	72.6	7.4	5.2	-	2.03	0.657
Borrowers default because they don't understand credit terms well	4.4	39.0	34.6	19.9	2.2	2.76	0.896
Poorly negotiated credit terms lead to loan non performance	16.2	72.1	7.4	4.4	-	2.00	0.644

Source: Survey outcome and own computation

From the Table 5.14 it can be concluded that respondents agreed with the fact that there is a relation between loan default and credit terms set by banks upon loan approval.

When we see to the response on the relation between credit growth and occurrence of nonperforming loans; almost 78.7 percents of them agreed to assertion that aggressive lending leads to occurrence of large magnitude of NPL. Similarly 60.4 (mean 2.46, standard deviation 0.87) percent of the respondents thought that banks' greater risk appetite would be cause for occurrence of nonperforming loans. The response on the relation between compromised integrity and NPL reveals that almost 83.6 percent are in agreement. See Table 5.15.

**Table 5.15 Credit growth relation with NPL**

	<b>Strongly Agree (1) %</b>	<b>Agree (2) %</b>	<b>Neutral (3) %</b>	<b>Disagree (4) %</b>	<b>Strongly Disagree (5) %</b>	<b>Mean</b>	<b>Standard deviation</b>
Aggressive lending leads to large NPL volume/ratio	20.6	58.1	11	10.3	-	2.11	0.849
Banks whose credit growth is rapid experience huge NPL level	4.4	30.7	38.7	26.3	-	1.87	0.859
Bank's great risk appetite is cause for NPL	9.7	50.7	23.9	15.7	-	2.46	0.872
Compromised integrity in lending leads to loan default	26.9	56.7	9.7	6.7	-	1.96	0.799

Source: Survey outcome and own computation

So it can be stated that when banks pursue aggressive lending strategy and thereby experience rapid credit growth they might heap up large volume of nonperforming loans. Not only this but also compromised integrity in sanctioning credit is also believed to be cause for occurrence of loan default by respondents.

The survey response on the relation between having large number of borrowers and banks' size indicates that it is not the cause for the occurrence loan default. Responses to questions relating to bank size and occurrences on NPL are inclined towards disagreement. See Table 5.16.

**Table 5.16 Bank size and occurrence on NPL**

	<b>Strongly Agree (1) %</b>	<b>Agree (2) %</b>	<b>Neutral (3) %</b>	<b>Disagree (4) %</b>	<b>Strongly Disagree (5) %</b>	<b>Mean</b>	<b>Standard deviation</b>
Having large number of borrowers causes loan default	2.2	6.6	32.8	51.8	6.6	3.54	0.805
Loans default rate is directly related to banks' size	2.2	5.1	24.3	58.8	9.6	3.68	0.805
With growth in banks size comes growth on NPL	1.5	11.7	24.8	55.5	6.6	3.54	0.840

Source: Survey outcome and own computation

On the other hand about 58.1 (mean 2.5, standard deviation 0.10) percent of the respondents agree that loan default is associated with bank ownership type. Note also that 56.2 percent of the respondents are staff of state owned banks. See Table 5.17 and Table 5.2



**Table 5.17 Banks ownership type and NPL**

	<b>Strongly Agree (1) %</b>	<b>Agree (2) %</b>	<b>Neutral (3) %</b>	<b>Disagree (4) %</b>	<b>Strongly Disagree (5) %</b>	<b>Mean</b>	<b>Standard deviation</b>
Loan default is not related banks ownership type (private/state owned)	18.4	39.7	18.4	20.6	2.9	2.5	0.102

Source: Survey outcome and own computation

## 5.2 Document study

In order to assess factors affecting nonperforming loans, data on the total assets, total loans and advances, deposit and nonperforming loan ratio of selected banks were used. The relevant data on bank size, bank ownership type, NPL (from the year 2005 to 2010) was collected from eleven banks that were registered before the year 2007/08.

Examination of the trend in respect of NPL over the period covered by the study reveals that the mean NPL ratio has been decreasing since 2005. In light of banks' ownership type the ratio has been decreasing for two of the state owned banks (CBE and CBB) though the trend was erratic for private banks. Comparisons of respective NPLs of banks against the mean NPL ratio depicts no direct relationship between sizes of banks (relatively big, medium and small) and NPL ratios. See (Table 5.18).

**Table 5.18 NPL ratio of Banks**

Bank	Year					
	2005	2006	2007	2008	2009	2010
Commercial Bank of Ethiopia	27.52	22.45	14.52	5.33	3.70	1.70
Construction and Business Bank	27.76	19.42	17.06	15.56	11.00	6.50
Dashen Bank	6.72	6.21	5.95	5.89	7.3	2.9
Awash International Bank	12.02	9.56	7.36	8.66	5	7
Bank of Abyssinia	12.4	4.94	10.54	12.87	5.25	3.95
Wegagen Bank	8.41	4.85	5.25	8.39	7.7	3.5
United Bank	8.45	4.18	4.59	3.98	3.76	3.35
Cooperative Bank of Oromia	0	0	0.17	1.09	2.5	7.62
Nib International Bank	11.22	8.47	5.56	6.73	14.1	7.4
Lion International Bank	NA*	NA*	0	0.11	0.27	6.53
Development Bank of Ethiopia	31.4	35.5	36.3	37.04	22.7	11.67
<b>Mean</b>	16.21	11.56	9.75	9.6	7.6	5.65
<b>Standard deviation</b>	9.74	10.92	10.26	10.17	6.69	2.87

\*NA Not available

Source: Financial data of banks and own computation

The data also indicate that a total asset of all the banks covered by this study, which shows the size of the banks, was growing for the years under consideration. The mean total asset depicted an increasing trend though the standard deviation had also been so big throughout the years in consideration indicating variability of the means. See Table 5.19. Moreover, the

total deposits and net loans showed an increase from the years 2005-2010, with exception of deposit of the Development Bank of Ethiopia that depicted a steady trend as the bank is not directly engaged in mobilizing deposit from the public .See (Appendix 3).

**Table 5.19 Total Assets of Banks (in millions ETB)**

Bank	Year					
	2005	2006	2007	2008	2009	2010
Commercial Bank of Ethiopia	33,169	35,849	43,456	50,416	59,411	74,230
Construction and Business Bank	1,832	1,797	1,889	2,392	2,592	3,162
Dashen Bank	3,420	4,546	6,041	7,829	9,733	12,353
Awash International Bank	2,226	2,954	3,830	4,820	6,423	7,945
Bank of Abyssinia	2,057	2,834	3,396	4,270	5,477	6,280
Wegagen Bank	1,616	2,259	3,480	4,125	5,118	5,742
United Bank	1,073	1,599	2,183	3,250	4,652	5,896
Cooperative Bank of Oromia	129	224	424	678	1,023	1,768
Nib International Bank	1,732	2,027	2,607	3,650	4,807	5,971
Lion International Bank	NA	NA	266	574	952	1,364
Development Bank of Ethiopia	4,546	4,958	5,559	5,658	6,408	15,200
Mean	5,180	5,905	6,648	7,697	9,691	12,719
Standard deviation	9,908	10,612	12,342	14,341	16,683	20,820

Source: Financial data of banks and own computation

Total asset, total deposit and loans advances being indicators of bank size, their correlation with the ratio of nonperforming loans were analyzed. The outcome is presented as follows.

Table 5.20 below show the mean and standard deviation the total asset, net deposit, net loan and NPL ratio of the eleven banks selected for this study for the period 2005-2010.

**Table 5.20 .Descriptive Statistics**

	<b>N</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>	<b>Std. Deviation</b>
<b>Total Asset*</b>	64	129	74,230	8,096	14,356
<b>Net Deposit*</b>	64	15	56,053	5,706	10,889
<b>Net Loan*</b>	64	30	22,155	3,171	4,188
<b>NPL Ratio</b>	63	.00	37.04	9.84	9.03

\*Value of asset, deposit and net loan is in million ETB

Source: Financial data of banks and own computation

The big standard deviation indicates the variability from Means under consideration as has also been observed from the minimum and maximum values.

**Table 5.21 Correlation Matrix**

		<b>Total Asset</b>	<b>Net Deposit</b>	<b>Net Loan</b>	<b>NPL Ratio</b>
<b>Total Asset</b>	Pearson Correlation	1.000	0.989**	0.956**	0.023
	Significance		0.000	0.000	0.856
<b>Net Deposit</b>	Pearson Correlation	0.989**	1.000	0.918**	-0.043
	Significance	0.000		0.000	0.735
<b>Net Loan</b>	Pearson Correlation	0.956**	0.918**	1.000	0.050
	Significance	0.000	0.000		0.698
<b>NPL Ratio</b>	Pearson Correlation	0.023	-0.043	0.050	1.000
	Significance	0.856	0.735	0.698	

\*\* Correlation is significant at the 0.01 level (2-tailed).

Source: Financial data of banks and own computation

As can be observed from Table 5.21 at the 0.01 level of significance there were statistically significant relationship between net deposit and total asset of banks studied. Same was true for the relationship between net loan and total asset at 0.01 level of significance. So as total deposit or net loans of banks increased the total asset had also increased. Besides, the correlation between deposit and net loans at 0.01 level of significance was strong. So with increase in banks deposit there was also growth in net loans banks advanced.

On the contrary at 0.05 level of significance there were no statistically significant relationships between the total asset and NPL ratio as the Pearson correlation was only 0.023 i.e. very weak. The Pearson correlation between net deposit and NPL ratio was also -0.043 i.e. very weak negative correlation.

Considering the Pearson correlation between net loans and NPL ratio at 0.05 level of significance was 0.05 indicating that there was no statistically significant relationship between the net loans and NPL ratio. So, though there was growth on size of loans of the banks studied during the period 2005-2010, the NPL ratios had an erratic trend indicating that NPL of banks are not explained by loans size.

As has been indicated earlier the total assets of the banks, which indicate size of banks, have shown growth throughout the period under consideration. However, the outcome of the analysis depict that at 0.05 level of significant, there were no statistically significant relationship between NPL ratio and total assets, which is the indicator bank's size. So the study fails to support earlier studies that indicated the relation between banks size and nonperforming loans.

Further, comparatively bigger banks, Commercial Bank of Ethiopia, Awash International and Dashen Banks had NPL ratios of 1.7%, 7% and 2.9% respectively during the year 2010 for example. In a similar manner other relatively midsized or smaller banks had NPL ratios of more or less similar to that of Awash Bank's or Dashen Bank. The raw data itself depict that the association between bank size and their NPL ratio is weak or rather nil.

Despite the fact that the total asset of all the banks have been growing throughout the period under consideration the banks respective NPL ratio was not growing rather the trend is erratic in some of the banks while it was a decreasing trend. But in general the mean NPL ratio has been decreasing indicating the fact that banks growth in size has not lead in growth in NPL ratio (See Table 5.18 and Table 5.22).

**Table 5.22 Mean NPL ratio of Ethiopian banks established before 2007/8**

<b>NPL ratio/year</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
Mean NPL	16.21	11.56	9.75	9.6	7.6	5.64
N	9	10	11	11	10	11

Source: Financial data of banks and own computation

As has been discussed earlier deposits, loans and advances and total assets are indicators of a bank size. The Pearson correlation between these balance sheet items and NPL indicates a very weak correlation. Thus the data fails to support the fact that bank size affects or determines occurrences of nonperforming loans.

In terms of bank ownership type; for example CBE, the biggest bank in the industry has seen a tremendous decrease of NPL from 27.5% in the year 2005 to 1.7% in 2010. The data also depict that both CBB and DBE are on same path. DBE though on the right path still maintained the biggest ratio. That might ascribe to the development banking it is engaged in due to the risk natures of projects financed.

Seeing to their current positions on NPL there as such is no direct relationship between bank ownership and occurrences of nonperforming loans. For example Commercial Bank of Ethiopia had one of the least nonperforming loan ratios during recent years as do other private bank like Dashen. On the other had Construction and Business Bank have had comparatively bigger NPL ratio than some of the private banks. So the data don't depict relationship between bank ownership type and NPL ratio.

Though the literature also indicates the fact that there is association between credit growth and NPL, despite the fact that net loan for all the banks and the respective mean thereof have been growing the mean NPL has been decreasing for the period 2005-2010. Thus the data fails to support the literature though it requires a depth study.

### **5.3 In-depth interview**

In order to get deep understanding about the factors affecting nonperforming loans, in-depth interview was conducted with senior bank officials. All of the interviewees have had over 14 years credit experience in addition to their several years of banking experience. In terms of profile, a president, credit vice presidents, senior credit committee members participated. The interviewees were from private, state owned and central banks. Some of the interviewees were not from banks that were covered by the survey conducted. The respondents have so many in common as to what they believed cause occurrence of nonperforming loans.



The section that follows present factors believed to cause occurrences of NPL by the interviewees. Besides, the factors that are thought to be most critical for the occurrences on NPL are pinpointed. In addition, factors that ascribe to the very nature of the Ethiopian banking industry contributing to the NPL occurrence are specifically presented.

### **5.3.1 Factors believed to cause occurrences of NPL by the interviewees**

Respondents indicated that several factors contribute to loan default. As per the outcome of the interview the factors can be categorized as banks' internal situations, the external environment and borrowers related. The factors are organized and presented under the respective subtitles.

#### **5.3.1.1 Banks internal factors**

These are factors relating to internal inefficiencies due to systems, governance, human resource issues and the related. Under theme this most of the interview participants raised the following issues:

- Bankers lack of integrity,
- Terms and condition not being set properly,
- Credit analysts capacity limitation,
- Banks aggressive lending to maximize profit,
- Not conducting Know your customers (KYC) principles properly before lending,
- Over trading/over financing,

- Not understanding and seeing critically the macroeconomic environment,
- Excessive lending by banks on a particular sector – poor portfolio diversification,
- Poor collateral valuation,
- Inadequate institutional capacity – in terms of risk selection,
- Policies that failed to consider the macroeconomic environment,
- Poor monitoring and follow up,
- The credit approval process not being prudent and failing to comply with the existing bank policies,
- Inadequacy of credit risk management-from identifying, measuring and monitoring
- Governance problems,
- Poor or no management information system (MIS),
- Absence of check and balance-in loan processing, follow up and monitoring/ follow up

#### **5.3.1.2 Customer related factors**

These are factors that emanate from borrowers and have strong bearing on occurrences of loan default. Under this ground the following were raised:

- Fund being directed to unintended purpose,
- Borrowers not making competitive analysis before engaging in a particular sector,
- Business management problems- most of family owned businesses don't have good management and they also suffer from succession,
- Poor record keeping by businesses,
- Intentional or willful default,

### **5.3.1.3 External factors**

These are factors that were beyond the influence of banks and borrowers. They are presented follows.

- Intervention of external bodies in credit decision making both in private and state owned banks,
- Society's culture – one doesn't buy foreclosed properties of others in same village in some society,
- Poor credit culture,
- Macroeconomic factors like inflation, market problems etc.
- Unavailability of data to conduct project analysis,
- Inadequacy of the supervisory authorities polices- loan classification methodology adopted for both development and commercial banks were similar,
- Capacity limitation of the supervisory organ

### **5.3.2 Most critical factors for loan default as per interviews**

The interviewees were requested to rate the factors they believed are rated top in causing occurrences of nonperforming loans. Their responses are organized as follows:

- Poor credit analysis by banks,
- Borrowers lack of knowledge –entrepreneurship skill gap, engaging in unstudied business, management capability limitation,
- Inadequacy in the competence of credit operators,
- Not keeping apt with national and global business environment by banks
- Compromised integrity of credit operators,

- Poor monitoring and follow up,
- Policy environment ( Central bank's and others)

### **5.3.3 Factor that are uniquely associated to Ethiopian banking context**

Responses of the interviewees on factors they believed were very peculiar to the Ethiopian Banking environment and have significant bearing on occurrences of loan default are organized in the following manner.

- Inadequacy in the capability of employees remain one of the main challenge of the Ethiopian Banking industry which as a result would lead to compromise on loan underwriting standard that in turn have a huge bearing on loan performance,
- Regulatory environment- introduction of credit cap earlier by the central bank ; borrowers think they may not get back a loan and fail to perform,
- External influence – the change of the national economic policy from command to market led had impact earlier,
- Absence of blacklisting of defaulters at a national level. This would have served as a deterrent factor helping protect loan default,
- Excessive dependency on collateral – if financing is based on the business of the company borrowers may not default as source of repayment would be properly ascertained before advancing loans,
- Cultural under development- weak credit culture. There is an Ethiopian proverb that says “A borrower or a lender might die” which would encourage loan default.
- The environment being unsupportive – Policy, rules and regulation (macroeconomic policy).

- Unfair industry competition among banks- endangering banks not select good customers. Sometimes non performing loans of other banks are bought by other banks.
- Underdevelopment of the banking system,
- Limited capacity of the central bank's supervision capability,
- Interventions and influences- operators at times lack professional independence,
- Underdevelopment of institutional capacity of banks in general and human resource in particular

In an endeavor to ascertain the survey response through interview, the interviewees were asked of their view on the relations between loan price, bank size and ownership type of banks and occurrences of loan default as indicated in the literature. However, all of the interviewees indicated that they saw no relation between loan price and occurrence of NPL. Nor did they believe association between bank sizes or ownership type and loan default.

## **5.4 Summary of Results**

The study conducted survey of banks' employees (using self administered questionnaires) and structured survey of documents and unstructured interview. The survey had a response rate of ninety one percent. Fifty six percent of the study respondents were from state owned banks while the remaining were private banks' employees. Seventy five percent of respondents were directly engaged in credit related activities. Eighty nine percent of the respondents had over ten years of experience in banking and sixty percent over five years lending experience.

In response to a subjective question as to what cause occurrences of NPL in view of survey participants, the result indicated that fund diversion, compromised integrity, over/under financing were the most frequently mentioned factors followed by unfair competition among banks, willful default and macroeconomic conditions among others.

In a question where the respondents were requested to rate factors they believed cause occurrences of nonperforming loans in order of importance; poor monitoring by banks, banks size, poor risk assessment, credit culture/orientation were rated to be the top four factors causing loan default. On the other hand charging high interest rate and rapid loan growth were rated among the least factors causing occurrences of nonperforming loans.

In a Likert scale measure average response indicated that respondents agreed that credit assessment is related to loan default. They also agreed with the fact that loans follow up /monitoring is related to occurrence of nonperforming loans. On the other hand the response on relation between collateral and loan default indicated disagreement. Average response on impact of credit culture /orientation was agreement. The response on the relation between loan price /interest rate/ and occurrence of loan default depicted disagreement. Average view of the respondents on impact of credit terms on loan default was agreement. Respondents were of the view that aggressive lending and compromised integrity lead to occurrences of NPL. The response on the relation between bank size and occurrences of loan default indicates disagreement. Finally the response to a question relating banks ownership type to occurrences of nonperforming loans was neutral.

From financial data of banks, the correlation of independent variable such as deposit, loans, and total asset and dependent variable NPL ratio was tested. The result showed that at 0.05 level of significant, there were no statistically significant relationship between all independent variables and NPL. Same test carried out at the same level of significance by categorizing banks in terms of ownership type and size indicated that there were no statistically significant relationship between deposit, loan, total asset and NPL.

An in-depth interview wherein senior executives in the Ethiopian banking sector were interviewed indicated that the critical factors causing occurrences of nonperforming loans include : poor credit analysis by banks, borrowers lack of knowledge entrepreneurship gap ( engaging in unstudied business and management capability limitation), lack of competency of credit operators, not keeping apt with national and global business environment by banks and borrowers ,compromised integrity of credit operators, poor monitoring and follow up of loans by lending banks and limitations in the policy environment ( Central bank's and others).

## CHAPTER SIX

### DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

The previous chapter presented the results while this chapter is dedicated for the discussions of the research findings, conclusions and recommendations. Accordingly, section 6.1 shows the discussion in the context of literature while sections 6.2 and 6.3 try to present conclusions and recommendations respectively.

#### 6.1 Discussion of the research findings

As has been stated in chapter one the broad objective of this study was to identify bank specific determinants of nonperforming loans. Further, the following specific questions were formulated to contribute to meeting the general objective of the research:

*RQ1. What are bank specific determinants of non-performing loans?*

*RQ2. Is there a relationship between credit admittance policy, loan underwriting and risk assessment and level of nonperforming loans?*

*RQ3. Does credit monitoring determine loan default?*

*RQ4. Is there a relationship between collateralized lending and non performing loans?*

*RQ5. What is the impact of credit culture on loan default?*

*RQ6. Do credit terms and price affect loan performance?*

*RQ7. Does rapid credit growth and greater risk appetite lead to non performing loans?*

*RQ8. Is there any relation between bank ownership structure and size and loan default?*



The study analyzed each factor that has impact on occurrences of nonperforming loans. Bercoff et al (2002) indicated that NPLs are affected by both bank specific factors and macroeconomic factors. Focus of this study being banks specific determinants of NPL, the findings in light of the literature are discussed.

In respect of the factors affecting NPL, the subjective question in the survey and in-depth interviews identified factors such as poor credit assessment, failed loan monitoring, underdeveloped credit culture, lenient credit terms and conditions, aggressive lending, compromised integrity, weak institutional capacity, unfair competition among banks, willful default by borrowers and their knowledge limitation, fund diversion for unintended purpose, over/under financing by banks ascribe to the causes of loan default. The study tried to investigate these factors further.

### ***Customer Admittance and Risk Assessment and NPL***

Under this study 44 percent of the respondents agreed that easily admitted borrowers usual default (Table 5.9). The outcomes of the in-depth interview support this view. The fact that banks pursue a loose KYC (know your customer) before admitting a new customer indulge them to recruiting a borrower with poor track record, inadequate business management, excessively risky and/or unviable venture that would eventually lead to poor credit performance. The result supports Brownbrige (1998) who stated that easily admitted customer's loan would be damaged at the early stage.

The survey also indicated that 97.2 percent of the respondents agree with fact that poor risk assessment greatly affects occurrences of loan default. Almost all of the bankers interviewed concurred with this view. Credit assessment deals with a thorough analysis of the five Cs, to help indicate whether to lend or not and how much, under what term and conditions, at what price to lend, to mention a few. Thus failing to carry out proper risk assessment would lead to missing any or all of the captioned issues, which has a potential for the occurrence on NPL. Ning (2007) indicated the impact of poor risk assessment on loan quality.

### ***Credit Monitoring and NPL***

Stating the essentiality of regular monitoring of loan quality, Agresti et al. (2008) stated that it would help ensure a sound financial system and thereby prevent systemic crises that otherwise would lead to loan default. This survey also confirmed the stated study as 92.7 percent of the respondents indicated agreement (Table 5.10). Lack of loan follow-up was also one of the top factors rated to contribute to the occurrences of NPL by the survey and interview participants.

Naturally the objective of monitoring a loan is to verify whether the basis on which the lending decision was taken continues to hold good and to ascertain the loan funds are being properly utilized for the purpose they were granted. There is also tendency by borrowers to give more attention to repaying loans if they are properly given attention by banks. Otherwise borrowers would be tempted to divert the fund to other purposes, as was also learnt through the in-depth interview. Thus failing to monitor loans would lead to default.

Bercoff, Giovanni and Grimard (2002) showed that operating efficiency helped explain NPLs. i.e. banks that incur big cost for loan follow-up would have a comparatively lower nonperforming loan. Respondents had a neutral view to the statement that banks which allocate higher budget for loan monitoring would have a lower NPL. The essence seems to be having a proper system in place to proactively follow up loans than magnitude of budget allocated.

### ***Collateral and NPL***

Security is taken to mitigate the bank's risk in the event of default and is considered a secondary source of repayment (Koch & MacDonald, 2003). According to De Lucia and Peters (1998), in the banking environment, security is required among others, to ensure the full commitment of the borrower, to provide protection should the borrower deviate from the planned course of action outlined at the time credit is extended, and to provide insurance should the borrower default.

Though 70 percent of the survey respondents are of the view that collateralizing loan may protect loan default lest the borrowers lose their pledged properties, the respondents were neutral with the assertion that collateralized loan perform well or non collateralized loan are usually defaulted. So the relation between NPL and collateral is neutral (Table 5.11) in view of the respondents.

***Credit Orientation /Culture and NPL***

Study conducted by Rajan and Dhal (2003) in India indicated that credit orientation significantly affects loan default. Response to four of the questions posed to ascertain the relations between credit orientation and NPL in the survey indicates average agreement (Table 5.12). The in-depth interview also confirmed the outcome of the survey and earlier studies. The socio economic underdevelopment of the country which is also associated with poor access to the formal banking, as depicted by higher bank branch to population ratio (NBE, 2011) meant that credit culture is yet to develop in Ethiopia. That was also why Ethiopian banks had comparatively big NPL ratio. There is an Ethiopian proverb “either a borrower or a lender might die” indicating a borrower shouldn’t bother to repay borrowings. Thus cultural development has got huge bearing on loan performance.

***Credit Terms &Price and NPL***

The study indicated that 87.4 percent of the respondents agree that lenient / lax credit terms cause loan default (Table 5.14). Limitation in capacity of credit operators is the cause for poor assessment. Shallow assessment would fail to indicate terms and conditions of loan properly, among others. This might mean loan disbursement might not be made timely; grace period may not be given properly, repayment amount set wrongly without considering the cash flow. Either of these or related would lead to poor loan performance. Thus the failure to put appropriate terms and conditions would lead to loan default. Rajan and Dhal (2003) who studied the Indian commercial banks also found out that terms of credit determines occurrence of nonperforming loans. Jimenez and Saurina (2005) also indicated that NPLs are determined by lenient credit terms.

The study by Jimenez and Saurina (2005) conducted on the Spanish banking sector from 1984 to 2003 evidence that NPLs are determined by lenient credit terms caused moral hazard and agency problems. This is one of the top rated factors by respondents from six banks out of the seven surveyed banks in subjective questions of the survey. Besides, 83.6 percent of the respondents agreed that compromised integrity would cause occurrences of NPL (Table 5.15). Same has been confirmed by interviewee participants. Bank managers at times indulge in a moral hazard that they grant loans to those who don't meet the criteria set. Such loans would hardly be repaid.

Study by Sinkey and Greenwalt (1991), Rajan and Dhal (2003), Waweru and Kalini (2009), Berger and DeYoung,( 1997), Jimenez and Saurina (2006), Quagliariello,( 2007) Pain, 2003, Bikker and Hu, (2002) indicated that high interest rate charged by banks is associated with loan defaults. This study fails to support this finding in that average response to the assertion that loans with big interest rate would turn to be defaulted was neutral (Table 5.13). None of the interview participants believed that interest rate is related to occurrences of loan default in the Ethiopian context. One line of argument could be that the interest rate charged is comparatively smaller. For example according to NBE (2011) the price index for non energy commodity was 29% higher than a year before at the beginning of the year 2011, whereas the average lending rate was only 12.25% for the year 2010/11. On the other hand, business might also have big profit margin that interest they payment on loans couldn't be an issue to cause loan default (this requires a further study).

***Rapid Credit Growth and NPL***

Salas and Saurina (2002) who studied Spanish banks found out that credit growth is associated with non performing loans. Of the survey participants 38.7 percent had a neutral view of the idea that credit growth is related to NPL (Table 5.15). The documentary analysis also depicted that Pearson correlation at 0.05 level of significance between credit size and NPL is very weak. Nor did the in-depth interview confirm the literature in this line.

***Bank size & ownership type and NPL***

In their study of commercial banks in Taiwan, Hu et al (2006) found out those banks with higher government ownership recorded lower non-performing loans. The survey indicates that 58.1 percent of the respondents agree that loan default is not related to ownership type of banks (Table 5.17). Interview response by few indicate that willful defaulters might hesitate to default at state owned banks while others did not see of any association between loan default and ownership type.

Sudy by Rajan and Dhal (2003), Salas and Saurina (2002), Berger and DeYoung, 1997 and others indicated that banks size have significance on occurrence of NPLs. The survey however, did not confirm the earlier studies in other countries (Table 5.16). The documentary analysis that analyzed factors that indicate bank size (deposit, loans and total asset) and NPL ratios depict a very weak correlation (Table 5. 21).

Despite the fact that the survey result supported earlier studies on some factors, the subjective questions in the survey and in-depth interview conducted revealed more findings which also might provide insights for further future studies. The factors thought to contribute to occurrences of NPL in this light include: fund diversion for unintended purpose, over/under financing, unfair competition among banks, compromised integrity, willful default, inadequacy institutional competency, credit operators low level of competence, borrowers skill gap, policy environment (supervisory) among others.

In fact some these findings might be categorized as part of result of earlier studies. For example, categorizing fund diversion, over/under financing under poor credit assessment and categorizing others in a similar manner. However, studying each of the aforementioned factors independently would shade more light on understanding factors that determines occurrences of nonperforming loans.

## **6.2 Conclusions**

The broad objective of this research was to identify bank specific determinants of nonperforming loans. Based on the broad objective a number of specific research questions were developed.

To achieve this broad objective, the study used mixed research approach. More specifically, the study used survey of employees of banks, structured survey of documents of bank reports and unstructured interview of senior bankers. The results showed that, based on the respondents' view it was evident that most likely factors that affect occurrences of nonperforming loans in Ethiopian banks are presented in the paragraphs that follow.

The study indicated that poor credit assessment ascribing to capacity limitation of credit operators, institutional capacity drawbacks and unavailability of national data for project financing that had also led to setting terms and conditions that were not practical and/or not properly discussed with borrowers had been the cause for occurrences of loan default.

Besides, despite the fact that credit monitoring/ follow-up plays pivotal role to ensure loan collection failure to do this properly was also found to be causes for sick loans. The research also indicated that over financing due to poor credit assessment, compromised integrity of credit operators were cause for incidences of NPL. In fact cases of under financing loan requirement that meant shortage of working capital or not being able to meet planned targets were associated with defaults.

In addition the study also found out that due to underdevelopment of credit orientation /culture borrowers engaged in business that they had no depth knowledge, diverted loans advanced for unintended purpose and at times made a willful default.

The study also depicted that unfair competition among the banks along with the aggressive lending pursued added to the poor customer selection made in a motive to maximize profit by the banks and/ or due to the moral hazard or compromised integrity were the other causes for the loan defaults.

In-depth interview also indicated that underdevelopment of supervisory authority competence in formulating policies, monitoring capability also ascribe to occurrences of nonperforming loans earlier.



On the other hand the study did not support the existing literature that state occurrences of NPL is related to bank's size, interest rate banks charge and ownership type of banks (private/state owned).

### **6.3 Recommendations**

After close examination and analysis of the research findings, the following recommendations are suggested:

- Banks should put in place a vibrant credit process that would encompass issues of proper customer selection, robust credit analysis, authentic sanctioning process, proactive monitoring and follow up and clear recovery strategies for sick loans.
- Banks should put in place a clear policy framework that addresses issues of conflict of interest, ethical standards, check and balance in decision making process for all those involved in the credit process ensure its implementation thereof.
- Banks should pursue a balanced approach of profit maximization and risk management lest they engage in aggressive lending and unhealthy competition that would lead to selecting borrowers that would default.
- Banks should give due emphasis it takes to developing the competency of credit operators, information system management pertaining to credit and efficiency of the credit process.

- As loans would contribute to the development of an economy and its default leads to episode of huge loss on banks and a country; deliberate effort should be exerted in developing culture of the public towards credit and its management by individual banks, Ethiopian Bankers Association, Ethiopian Public Financial Institutions Agency, NBE and others.
- Prudence of policies that govern bank loans should continuously be ensured in light of international best practices, macroeconomic situations, level of development of banks and the economy in general by NBE.

### **Recommendations for further studies**

- Macroeconomic determinants of nonperforming loans

The focus of this study was bank specific determinant of nonperforming loans, it is, therefore, recommended that a similar study be conducted on macroeconomic determinants of nonperforming loans.

- Bank specific determinants of NPL

In addition, assessing the statistical relationship between all bank specific factors and nonperforming loans in Ethiopia could be a future research agenda.

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## APPENDIXES

### Questionnaire (Appendix 1)



### QUESTIONNAIRE

My name is Wondimagegnehu Negera and I am currently working with the research component of the Master's Degree in Business Leadership (MBL) at the University of South Africa's School of Business Leadership (SBL).

The purpose of my study is to identify and examine factors affecting Nonperforming loans in Ethiopia. To this end, the study intends to gather information from selected credit related practitioners (credit managers, analysts, recovery (monitoring) officers, credit committee members, risk officers etc) through a self administered questionnaire. The participation is fully voluntary and responses will be confidential. The results will be also reported without compromising the anonymity of respondents.

The questionnaire takes about 15 minutes to complete. I would appreciate your favorable consideration in completing the enclosed questionnaire and assisting me in the research endeavor.

In case you have any questions please call 0911505300 or email [wondin@yahoo.com](mailto:wondin@yahoo.com).

Thank you in advance  
Wondimagegnehu Negera

## QUESTIONNAIRE

(Please tick appropriate boxes)

### SECTION ONE – BACKGROUND INFORMATION

#### 1. Your current position in the Banking industry

Loan Officer	<input type="checkbox"/>	1	Relationship manager	<input type="checkbox"/>	4
Credit analyst	<input type="checkbox"/>	2	Recovery/ monitoring officer	<input type="checkbox"/>	5
Credit Director	<input type="checkbox"/>	3	Vice president	<input type="checkbox"/>	6

Other, please specify \_\_\_\_\_

#### 2. Indicate your experience in the banking industry

Less than 1 year	<input type="checkbox"/>	1	6-10 years	<input type="checkbox"/>	4
1-5 years	<input type="checkbox"/>	2	Above 15 years	<input type="checkbox"/>	5
11-15 years	<input type="checkbox"/>	3			

#### 3. Indicate your experience in bank credit processes

Less than one year	<input type="checkbox"/>	1	6-10 years	<input type="checkbox"/>	4
1-5 years	<input type="checkbox"/>	2	Above 15 years	<input type="checkbox"/>	5
11-15 years	<input type="checkbox"/>	3			

#### 4. Indicate ownership of the Bank you work for

1. Private ☐                      2. State owned ☐

#### 5. Determinants of nonperforming loans are obvious.

1. Agree ☐      2. Neutral ☐      3. Disagree ☐

### SECTION TWO – QUESTIONS ON THE DETERMINANTS OF NON PERFORMING LOANS

#### 6. What bank specific factors do you think are causing the occurrence of nonperforming loans in Ethiopian banks?

**7. Please rank the factors that cause occurrence of nonperforming loans in Ethiopian banks**

N.B Rank the factors in order of their importance in contributing to the occurrence of nonperforming loans from 1-8

<b>Factor that causes occurrence of nonperforming loans</b>	<b>Rank 1=highest .....8=lowest</b>
Rapid Loan growth by banks	<input type="text"/>
High interest rate	<input type="text"/>
Lenient credit terms	<input type="text"/>
Credit culture / Orientation	<input type="text"/>
Size of the Bank	<input type="text"/>
Poor monitoring/follow	<input type="text"/>
Ownership type of bank	<input type="text"/>
Poor risk assessment	<input type="text"/>
Others, Please specify _____ _____ _____	<input type="text"/>



**Please indicate your degree of agreement or disagreement to the statements pertaining to credit assessment and the occurrence of NPL**

		<b>Strongly Agree (1)</b>	<b>Agree (2)</b>	<b>Neutral (3)</b>	<b>Disagree (4)</b>	<b>Strongly Disagree (5)</b>
7	Easily admitted borrowers usually default					
8	Know Your Customer (KYC) policy of banks lead to high loans quality					
9	Good loan underwriting ensures loan performance					
10	Poor risk assessment would lead to loan default					

**Please indicate your degree of agreement or disagreement to the statements pertaining to credit monitoring and the occurrence of NPL**

		<b>Strongly Agree (1)</b>	<b>Agree (2)</b>	<b>Neutral (3)</b>	<b>Disagree (4)</b>	<b>Strongly Disagree (5)</b>
11	Strict monitoring ensures loan performance					
12	Poorly assessed and advanced loans may perform well if properly monitored					
13	Loan follow up is directly related to occurrence of nonperforming loans					
14	Banks with higher budget for loan monitoring have lower non performing loans					

**Please indicate your degree of agreement or disagreement to the statements pertaining to Collateral and the occurrence of NPL**

		<b>Strongly Agree (1)</b>	<b>Agree (2)</b>	<b>Neutral (3)</b>	<b>Disagree (4)</b>	<b>Strongly Disagree (5)</b>
15	Collateralized loans perform well					
16	Collateralizing loans help protect loan default					
17	Most of the time non collateralized loans are defaulted					

**Please indicate your degree of agreement or disagreement to the statements pertaining to borrower's orientation and the occurrence of NPL**

		<b>Strongly Agree (1)</b>	<b>Agree (2)</b>	<b>Neutral (3)</b>	<b>Disagree (4)</b>	<b>Strongly Disagree (5)</b>
18	Borrower's orientation/culture is related to loan performance					
19	There is a relationship between loan default and borrower's culture					
20	Default in some area is ascribed to the culture of the borrowers					
21	Society's cultural development leads to good loan performance					

		<b>Strongly Agree (1)</b>	<b>Agree (2)</b>	<b>Neutral (3)</b>	<b>Disagree (4)</b>	<b>Strongly Disagree(5)</b>
22	Loans with big interest rate tend to turn to NPL					
23	Charging big interest rate leads to loan default					
24	Loan price affects loan performance					
25	Lenient / lax credit term cause loan default					
26	Borrowers default because they don't understand credit terms well					
27	Poorly negotiated credit terms lead to loan non performance					

**Please indicate your degree of agreement or disagreement to the statements pertaining to Credit size and the occurrence of NPL**

		<b>Strongly Agree (1)</b>	<b>Agree (2)</b>	<b>Neutral (3)</b>	<b>Disagree (4)</b>	<b>Strongly Disagree(5)</b>
28	Aggressive lending leads to large NPL volume/ratio					
29	Banks whose credit growth is rapid experience huge NPL level					
30	Bank's great risk appetite is cause for NPL					
31	Compromised integrity in lending leads to loan default					
32	Having large number of borrowers causes loan default					
33	Loans default rate is directly related to banks' size					
34	With growth in banks size comes growth on NPL					
35	Loan default is not related banks ownership type (private/state owned)					

**36. If you have further comments on the bank specific factors affecting nonperforming loans of Ethiopian Banks please use the space below**

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End of the questionnaire

Thank you for your participation

### **Instrument for In-depth interview (Appendix 2)**

1. Summary of the respondent profile ( age, education level, banking experience, experience on credit, current status and the related )
2. Views of the respondents on the factors that determine occurrence of nonperforming loans in general and Ethiopian banks in particular.
3. Views of respondents on which factors answered in Q2 stand at the top and rating of the factors thereof in relation to the other.
4. Opinion of respondents on the impact of the Ethiopian Banking context that might have any bearing on the occurrence of loan default.
5. Recommendation/ if any for mitigating occurrence of nonperforming loans proposed by the respondents.

**Assets and NPL ratio of Banks Surveyed (Appendix 3)****Bank- COMMERCIAL BANK OF ETHIOPIA****(in millions ETB)**

S/N	Particular	2005	2006	2007	2008	2009	2010
1	Net deposit	25,367	28,286	32,873	37,633	43,489	56,053
2	Net Loan	7,533	7,653	8,370	16,275	20,257	22,155
3	Total Asset	33,169	35,849	43,456	50,416	59,411	74,230
4	Deposit to loan ratio	3.37	3.70	3.93	2.31	2.15	2.53
5	NPL Ratio	27.52	22.45	14.52	5.33	3.70	1.70

**Bank- CONSTRUCTION AND BUSINESS BANK****(in millions ETB)**

S/N	Particular	2005	2006	2007	2008	2009	2010
1	Net deposit	1,056	973	1,136	1,489	1,834	2,354
2	Net Loan	747	1,046	1,142	1,205	1,391	1,558
3	Total Asset	1,832	1,797	1,889	2,392	2,592	3,162
4	Deposit to loan ratio	1.41	0.93	0.99	1.24	1.32	1.51
5	NPL Ratio	27.76	19.42	17.06	15.56	11.00	6.50

**Bank- DASHEN BANK****(in millions ETB)**

S/N	Particular	2005	2006	2007	2008	2009	2010
1	Net deposit	2,833	3,692	4,861	6,152	7,925	10,145
2	Net Loan	2,160	3,080	3,889	4,280	4,349	4,939
3	Total Asset	3,420	4,546	6,041	7,829	9,733	12,353
4	Deposit to loan ratio	1.31	1.20	1.25	1.44	1.82	2.05
5	NPL Ratio	6.72	6.21	5.95	5.89	7.3	2.9

**Bank- AWASH INTERNATIONAL BANK**

(in millions ETB)

S/N	Particular	2005	2006	2007	2008	2009	2010
1	Net deposit	1,940	2,567	3,112	3,870	4,962	6,106
2	Net Loan	1,210	1,780	2,403	2,611	2,564	2,997
3	Total Asset	2,226	2,954	3,830	4,820	6,423	7,945
4	Deposit to loan ratio	1.60	1.44	1.30	1.48	1.94	2.04
5	NPL Ratio	12.02	9.56	7.36	8.66	5	7

**Bank- BANK OF ABYSSINIA**

(in millions ETB)

S/N	Particular	2005	2006	2007	2008	2009	2010
1	Net deposit	1,627	2,177	2,721	3,478	4,494	5,139
2	Net Loan	1,173	1,902	2,197	2,567	2,443	2,920
3	Total Asset	2,057	2,834	3,396	4,270	5,477	6,280
4	Deposit to loan ratio	1.39	1.14	1.24	1.35	1.84	1.76
5	NPL Ratio	12.4	4.94	10.54	12.87	5.25	3.95

**Bank- WEGAGEN BANK**

(in millions ETB)

S/N	Particular	2005	2006	2007	2008	2009	2010
1	Net deposit	1,288	1,778	2,724	2,966	3,728	3,923
2	Net Loan	951	1,516	2,060	2,208	1,984	2,376
3	Total Asset	1,616	2,259	3,480	4,125	5,118	5,742
4	Deposit to loan ratio	1.35	1.17	1.32	1.34	1.88	1.65
5	NPL Ratio	8.41	4.85	5.25	8.39	7.7	3.5

**Bank- UNITED BANK**

(in millions ETB)

S/N	Particular	2005	2006	2007	2008	2009	2010
1	Net deposit	869	1,220	1,541	2,443	3,616	4,725
2	Net Loan	570	975	1,368	1,810	2,086	2,518
3	Total Asset	1,073	1,599	2,183	3,250	4,652	5,896
4	Deposit to loan ratio	1.52	1.25	1.13	1.35	1.73	1.88
5	NPL Ratio	8.45	4.18	4.59	3.98	3.76	3.35

**Bank- COOPERATIVE BANK OF OROMIA**

(in millions ETB)

S/N	Particular	2005	2006	2007	2008	2009	2010
1	Net deposit	15	98	277	490	789	1,372
2	Net Loan	3	126	236	318	588	704
3	Total Asset	129	224	424	678	1,023	1,768
4	Deposit to loan ratio	5.00	0.78	1.17	1.54	1.34	1.95
5	NPL Ratio	NA	0	0.17	1.09	2.5	7.62

**Bank- NIB INTERNATIONAL BANK**

(in millions ETB)

S/N	Particular	2005	2006	2007	2008	2009	2010
1	Net deposit	1,223	1,452	1,879	2,470	3,296	4,127
2	Net Loan	1,086	1,418	1,755	2,034	2,118	2,447
3	Total Asset	1,732	2,027	2,607	3,650	4,807	5,971
4	Deposit to loan ratio	1.13	1.02	1.07	1.21	1.56	1.69
5	NPL Ratio	11.22	8.47	5.56	6.73	14.1	7.4



**Bank- LION INTERNATIONAL BANK**  
(in millions ETB)

S/N	Particular	2005	2006	2007	2008	2009	2010
1	Net deposit	NA	NA	122	375	704	1,018
2	Net Loan	NA	NA	74	180	465	575
3	Total Asset	NA	NA	266	574	952	1,364
4	Deposit to loan ratio	NA	NA	1.65	2.08	1.51	1.77
5	NPL Ratio	NA	NA	0	0.11	0.27	6.53

**Bank- DEVELOPMENT BANK OF ETHIOPIA**  
(in millions ETB)

S/N	Particular	2005	2006	2007	2008	2009	2010
1	Net deposit	682	636	575	502	512	1,655
2	Net Loan	3,410	3,562	3,867	4,236	5,127	9,426
3	Total Asset	4,546	4,958	5,559	5,658	6,408	15,200
4	Deposit to loan ratio	0.20	0.18	0.15	0.12	0.10	0.18
5	NPL Ratio	31.4	35.5	36.3	37.04	22.7	11.67